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OF THE

SECRETARY OF INTERNAL AFFAIRS

OF THE

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REPORT

OF THE

BUREAU OF INDUSTRIAL STATISTICS.

COMMUNICATION.

Department of Internal Affairs,
Harrisburg, Pa., July 28, 1899.

To His Excellency, William A. Stone, Governor of the Commonwealth of Pennsylvania:

Sir: In compliance with the requirements of the Constitution, I have the honor to submit herewith, for transmission to the General Assembly, the twenty-sixth annual report of the Bureau of Industrial Statistics, the same being Part III of the reports of this Department.

I am, very respectfully,
Your obedient servant,
JAMES W. LATTA,
Secretary of Internal Affairs.

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LETTER OF TRANSMITTAL.

Harrisburg, Pa., July 28, 1899.

Hon. James W. Latta, Secretary of Internal Affairs of the Commonwealth of Pennsylvania:

Sir: I have the honor to present herewith the twenty-sixth annual report of the Bureau of Industrial Statistics. The report covers the manufacture of silk, with illustrations, the entire production of pig iron, steel, iron and steel rolled into finished form, tin plate and limestone for iron manufacturing purposes, a continuation of the comparative series of 1892, and the comparative series of 1896.

Very respectfully,
JAMES M. CLARK,
Chief of Bureau.

INTRODUCTION.

The first matter that appears in this report is an article read by General Latta, Secretary of Internal Affairs, before the National Association of Officials of Bureaus of Labor Statistics of the United States, at its Fifteenth Annual Convention, held in Augusta, Maine, July 11-15, 1899, upon the subject, "Are Economics of Value in the Philippines?" While the Philippines are rather remote from Pennsylvania's field of operation, yet it can scarcely be said that they are too far removed to be reached by the broad science of economics. The subject has been made one of deep research, and the article will be read with profit by those interested in the science of government and in the advancement of the industrial conditions of the world.

The next subject presented is the silk industry, its culture and growth. It is carefully followed from the moth to the worm, from the worm to the cocoon, from the cocoon to the fibre, and from the fibre to the fabric, together with an outline history of its discovery as an article of value to manufacture, and showing how jealously the secret was at first guarded, and how it escaped from China; his wormship's march westward, and his final advent into America. The article closes with a presentation of the part Pennsylvania has taken in this field of manufacture, showing the almost phenomenal success she has attained. The illustrations, which are largely from our home plants, add greatly to the interest of the work, and will materially help in the better understanding of that which by reason of circumstances has been somewhat obscured in the past.

In the matter of statistics, the first tables presented are the comparative series of 1892 and 1896, where comparisons are made of the same establishments from year to year, showing, for the 1896 series, a comparison of capital invested, the value of the basic material out of which the product is made, the days in operation, the number of persons employed, the aggregate wages paid, the value of the product, and other deductions of interest; and for the 1892 series practically the same comparisons are made, except as to the capital invested and the value of basic material.

The comparative tables are followed by a complete census of the silk manufacture for the year 1898, showing the total number of spindles in use, both for winding and doubling, spinning and twisting, and for braiding; total number of hand looms for plain broad goods, for jacquards and for narrow goods; the total number of power looms for plain broad goods, jacquards, ribbons and other narrow goods; the total number of machines for knitting and lace making, for sewing and for braiding; the total number of employes, both male and female, and of children, and the aggregate wages paid to each classification, as well as the total value of the production. Comparison is made between the Federal census of 1890 and the census of this Bureal for 1895, showing in detail the remarkable growth of this industry.

A complete census is also given of pig iron, of steel, of iron and steel rolled into finished form, of tin plate, and of limestone quarried for iron manufacturing purposes. The census of pig iron, iron and steel rolled into finished form, and tin plate, covers not only the entire tonnage, but values, persons employed, days of employment, and the aggregate wages paid, yearly earnings and average daily wage. Comparison is made between the years 1896 and 1897.

These figures have been compiled with great care, and may be relied upon as accurate.

ARE ECONOMICS OF VALUE IN THE PHILIPPINES?

By James W. Latta.

A saving, thrifty household is an economic household; a saving, thrifty nation is an economic nation. The widening scope of economy reaches beyond its domestic family environment, includes the state, and finds comprehensive expression through the qualifying word political. Between political economy and sociology there is close relationship, and with them both democracy has established a substantial intimacy. The mission of democracy is to break down caste, strengthen the family unit, enlarge the opportunity of the individual. Caste, primarily of oriental significance, has occidental application, where hereditary preferment is the distinctive social feature. It stands for the "dangerous aristocracy" that the unduly alarmed patriot feared that those equally earnest in patriotism but of alleged aristocratic tendencies and formidable in the wisdom of state craft had purposed to visit upon the Republic in the formative period of its existence.

Caste seriously impairs the basic principle of democracy, equality before the law. But democracy has more than fulfilled its purpose, its potent influences have not been confined to the geographical limits of its own domain. Our forbears aimed to secure for it no wider scope. Narrowed to a little fringe of free republics along the Atlantic seaboard, democracy was indeed a tentative undertaking. It was disassociated from every form of government, Asiatic and European, and out of fellowship with powers, potentates and rulers, insular and Continental. A hundred years have come and gone; the strength of the potentate has diminished; the power of the republic has increased. Experimental democracy is now substantial democracy, and the United States of America, where all color is alike, all creeds are equal, is the significant exponent of the people's sway.

Democracy is paramount in the western world, extends its touch to distant Africa, supplants an old Bourbon dynasty with the flag of the French Republic, and still maintains itself triumphantly in the mountain cantons of Switzerland. Parliament, diet, cortes, reichstag stand for the people in every court of Continental Europe; Islam and Slavic rule only are absolute, whilst every subject of the realm in all Her Majesty's vast dominions proudly proclaims himself a free-born Englishman. Equality before the law, if such in fact were not its first conception, has enlarged itself to the equality of privilege, the equality of opportunity, the equality of ability.

Democracy accepts a new responsibility. It enters upon another tentative era. It proposes to assume the "white man's burden." Is it as fitted to regenerate the savage in distant lands, to direct an untutored civilization, to control colonial possessions as it is to be mandatory in an "indestructible union of indestructible states?" The right of territorial acquisition of contiguous boundaries was determined by the Louisiana purchase. The stricken political conscience of the strict constructionist yielded its constitutional convictions to an opportunity too advantageous to be neglected. Sovereignty is a sweeping concession. The right to declare war, to wage war, must confer the corresponding right to accept the responsibilities, adjust the differences, to solve the conclusions involved in the consequences of war.

Will economics be helpful, sociology of value, statistics of advantage to this enlarged purpose of democracy? Are their principles applicable, their aims available for the conditions prevalent in our new possessions? In the Philippines, statistical information seems to have been limited to the market quotations, the custom house manifest and the readings of the thermometer in the city of Manila—meagre details for helpful economic aid. The economic arts have no abiding place until the social compact has broadened to a national existence. The economist has no tools in his workshop to fashion betterments for a primitive people unwilling to abandon the tribal relation and accept the state as the institution of right. Nor even then are his implements adjustable for a people who fail in the possession of a national conscience. The knowledge of the right and the wrong of it, acquired through a pagan civilization, is a sterile domain for the propagation of a thrifty economic harvest. The failure of the Englishman to realize the full fruits of his labor in his oriental undertakings is because of the unregenerate millions who people his vast East Indian possessions. Almost fifty years ago John Bright said of India, "Educate the people, govern them wisely, and gradually the distinctions of caste will disappear." Neither wisdom of administration nor offers of a beneficient training have fulfilled the assurance. Wedded to caste, true to the traditions of an idolatrous priesthood, the East Indiaman declines advice to be frugal in years of plenty. Famine is his direst foe, yet he refuses to be provident in methods and measures to alleviate the miseries or avert the depopulation that follow its stalking ghost so often abroad in a land so abundant in sunshine that if wanton drought did not at times assail it, it would be ever the richest of man's belongings. "Enlightened government and modern civilization: these are the specifics for famine. Where they exist scarcity will never result in depopulation. Where they do not, the utmost endeavors of government may mitigate, but they cannot avert." (Hunter's Annals of Rural Bengal, p. 55). Great epidemics originate beyond the borders of christendom; within its limits famine is rare and pestilence infrequent. Caste is the formidable hindrance to the complete reclamation of a Hindu civilization to the white man's standard. Willing to accept a western sovereignty, unwilling to yield to its proffered education, the enfeebled Hindu mind clings vigorously to an hereditary philosophy that blights personality, impedes progress, destroys usefulness. The Hindu has no fear of disturbance in his religion. Save that he has been halted in his cruel sacrifices, his faith is guaranteed him. The Empress of all the Indies has assured him by official proclamation that the state shall in no way interfere with his creed.

This tenacity of religious purpose in these worshipers of strange gods is not limited to the boundaries of the East Indian peninsula. A pagan civilization grown up about an idolatrous devotion is resentful of interference. The savage seems more willing to surrender his fetish than does the pagan his philosophy. Stunted moralities, the survival of fetish beliefs and pagan practices, are barriers that will clog the humanities in an early redemption of the Philippines. In scientific research and intelligent travel no American has better acquaintance with that archipelago than Prof. Dean C. Worcester, of the Michigan University. In his recently published work, he says: "The total population of the archipelago is not definitely known, as census returns are necessarily inaccurate, but it is usually estimated at from eight to ten millions. It is divided between more than eighty distinct tribes, which, for purposes of discussion, may be conveniently grouped as Negritos, Mohammedan Malays, pagan Malays and civilized Malays." And this is his judgment of one of these numerous tribal subdivisions; "I have elsewhere given in some detail my estimate of the Mohammedan Malays or Moros. I consider it certain that the nation which would have any hope of getting on peaceably with them must let their religion strictly alone; certain too, that for many years to come they must be held in check with a strong hand."

Mr. John Foreman, of the Royal Geographical Society, in his instructive work on the Philippines, a London publication of 1890, thus measures the domesticated natives of Luzon, the Filipinos: "Amongst themselves they are tyrannical. They have no real sentiment, honor or magnanimity, and apart from their hospitality, in which they far excel the European in all their actions, they appear to be only guided by fear or interest, or both. * * * "No one who has lived in the colony for years would sketch the real moral portrait of virtues and vices." * * * "Nor do the natives, rich or poor, of any class in life, and with very few exceptions in the whole population, appear to regard lying as a sin, but rather as a legitimate though cunning convenience, which should be resorted to whenever it will serve a purpose. It is my frank opinion that they do not, in their consciences, hold lying to be a fault in any degree."

Prof. Worcester confirms this estimate in language equally convincing. "The civilized natives," he says, "seldom voluntarily confess faults, and often lie most unconscionably to conceal some most trivial shortcoming. In fact, they frequently lie without any excuse whatever, unless it be the aesthetic satisfaction derived from the exercise of their remarkable talent in this direction. When one of them is detected in a falsehood, he is simply chagrined that his performance was not more creditably carried out. He feels no sense of moral guilt, and cannot understand being punished for what is not, to his mind, an offense."

A recent magazine article quotes, from an undisclosed authority as follows: "A student who spent fifty years here (Manila) is quoted as saying, 'the native is an incomprehensible phenomenon, the mainspring of whose thought and guiding motive of whose action has never yet been, may never be, discovered.'" While General Otis, in response to an interviewer who inquired whether his idea concerning the native character had changed since the recent outbreak, replied, "No one understands the native character."

These estimates of native moralities would indicate that the Filipino "is lost to that veracity of mind so essential, as Carlisle has pointed out to the successful existence of men and nations." A basis so deficient in the social virtues offers but a flimsy superstructure upon which to construct a conscience trustworthy for the maintenance of international obligations consequent upon independent statehood; presents an insecure foundation for economic development and industrial growth.

Goldwin Smith resolves the elements of human progress, and thus, as he phrases it, of universal history into only three, "the moral, the intellectual, the productive." And Herbert Spencer, associating the same thought with the effect of population upon those portions of the earth's surface capable of sustaining it, says "After having caused, as it (population) ultimately must, the due peopling of the globe and the raising of all its habitable parts into the highest state of culture; after having brought all processes for the satisfaction of human wants to perfection; after having at the same time developed the intellect into complete competency for its work and the feeling into complete fitness for social life—the pressure of population must gradually bring itself to an end."

Is the Philippine archipelago one of the habitable parts of the globe likely to be raised to the highest state of culture? It answers responsively to the pressure of population. The area of the Island of Luzon alone more than equals in extent the State of Pennsylvania, while its estimated population is not far short of the number of inhabitants in that favored commonwealth. Are the racial conditions an insuperable barrier to intellectual development, moral progress, a complete fitness for modern social life? There is probably no territory of equal extent where savagery, barbarism and civilization are severally in such significant evidence. As John Fiske designates it, "Barbarism is the enormous interval which begins with the invention of pottery and ends with the invention of the alphabet." Civilization consequently beginning with the invention of the alphabet, according to the French philosophers, exists in various degrees and is susceptible of continual progress. The savage, "is an uncivilized human being, one in the lowest and most primitive state of society." Luzon savagery is not of the worst, its barbarity not the most offensive, nor is its civilization of the purest. The combination would embarrass the idealist, the situation stagger the reformer. To treat the question superficially, there could be but the one conclusion, to sacrifice philosophy, forego morals and let the Filipino take care of his own deliverance. There is, however, one of Goldwin Smith's three sub-divisions so available in these islands for the application of economic principles, that with its better development the higher development of the other two might follow as a fitting sequence. There is no soil of more productive affluence within the zone of the tropics than that of this archipelago. The people have shown a capability of applying the industrial arts to the fabrication of much of this affluent product, with intelligent guidance this fabrication might be utilized to high commercial advantage.

There are physical hindrances. Never to worry and not to work are co-incidents of tropical temperament. All nations begin by being agricultural, but with a soil so prolific as to yield, without assistance, a sufficient sustenance there is no incentive to labor. The morrow takes care of itself. Neither is there invitation to an Anglo-Saxon emigration. The benefits the native may derive from an acquaintance with Anglo-Saxon enterprise can come only from the touch he is permitted to enjoy with Anglo-Saxon methods. No white man can discharge his daily toil under the withering influence of a tropical sun, except he be of a Latin race. There is no need longer, either to find a home for conscience sake. A universal tolerance has stayed the flight from persecution. The intellectual and the moral in proper ethical order precede the industrial development. The Pilgrim and the Puritan, Cavalier, Scotch-Irishman, Quaker and Huguenot recognized the precedence and each landed upon the shores of his new American home with the Bible and concordance in one hand, the arithmetic and spelling-book in the other. As they tore the rocks asunder in New England, leveled the primitive forests in the Appalachian basin, found a more bountiful yield in the Savannahs of the south-land, they overcame all natural resistance and found advantage and opportunity in their every undertaking. But they never forgot the ethical precedents. Their beliefs and their scholarships kept pace with their opportunities. They met their dangers with their fortitude, surmounted their difficulties with their energies, and while learned theologians gave them better understanding of their creed and encouraged wider dissemination of their faith, they found in their Belles Lettres rhetoric and mathematics a higher intellectuality than was supplied them in their primer and arithmetic.

Why may not climatic and social conditions justify a reversal of the sequence and an intelligent morality be constructed from a proper industrial foundation? Why may not a neglected and abandoned people, inhabitants of a land of wondrous abundance, have their production so intelligently directed that they may be ultimately willing to accept the ethics of christendom, attain a public conscience, be trained to the responsibilities of state craft? The native's preference would probably be to be governed well and let strictly alone as long as he obeys the law. It is said he has no patriotism in the sense of the white man's understanding. But the North American Indian had no patriotism except as crude savagery was an incentive to its development, yet he held tenaciously to his exclusive right to the occupancy of the country over which he roamed, and fought viciously against intrusion on or seizure of his vast nomadic belongings. Yielding to the inevitable, afters years of bitter conflict, where he still insists on maintaining his tribal relations, he at least contents himself on his reservation, or, willing to abandon those relations, finds still better satisfaction in his fee simple title to the holdings the Government has allotted him. He was slow to accept this, the first step of civilization towards personal betterment. So, too, may it be with the Talagol peasant. His Spanish master never taught him the advantage of proprietorship. He was sometimes permitted, when one piece of property was inconvenient of tillage, to wander to another, better suited to serve his purpose. If the responsibility of his American protectorate shall be to locate him on his belongings, assure him against intrusion, secure him against ouster, he may learn to know that land ownership strengthens the family unit as the stable beginning of the social compact.

Nor did the Spaniards wholly fail to recognize proprietorship as a civilizing initiative. They made at least one attempt at land allotment. A better selection for the test could have been secured from among the domesticated natives. Instead, however, a wild tribe of mountain nomads was chosen for the experiment. Holdings were set apart, stock supplied and implements furnished, but within a year the lands were all abandoned and the tribe was back again to its home in the mountains. The fact that the best available lands are held largely by the monastic element, either through undisturbed possession or government grant, with the domesticated natives as tenants, may have restricted the test to a location and people least likely to support it.

An eminent writer on economics, Prof. Arthur Latham Perry, substituting value for wealth as a word of higher technical significance, says, "The three only valuables are, in short, material commodities, personal services and commercial credits." The Luzon native, as with the vast majority of the species everywhere, regardless of race or surroundings, makes his contribution to productivity, entirely almost, through the one direction, personal services. If his wants are confined to the little apparel a tropical environment demands, and his desires are limited to the little food these softer climes require, his contributions will be proportionably lessened. Some incentive to increase his wants and multiply his desires would follow, if beyond his needs for personal consumption the product of his service could be safely called his own. If his labor could be associated with land to which he might justly claim proprietorship, he would be made to understand that his surplus commodities were the subject of barter and exchange for other commodities essential to his other wants and his other desires, that his touch with his neighbors, themselves proprietors, would necessarily create. He would soon learn to know that a body politic so constructed, allied to the commercial centers, would possess advantages and opportunities with which before he had no acquaintance.

Under his Spanish dominancy the domesticated native has been seriously restrained. Besides a burdensome taxation, under the vicious system permitted by the authorities, a landlord owned everything but the native himself. Himself he could remove, but not so his belongings. The betterments and accumulations followed the land and the tenant's interest in them ceased when he changed his locality. His lease, too, was frequently so cunningly drafted, the metes and bounds of his holdings so indefinitely set out, that another occupant more favored by the proprietor had sometimes forcibly ejected him before his tenure had run its course.

All nations, as has been said, begin with agriculture. So far as its immature developments have advantaged its units, the social compact in the Philippines is scarce beyond its beginning. Through all the centuries of this improvident beginning, the masses of the natives have so far subsisted solely by the contribution of personal services. As a fact, the native knows no more of economics as an art than did England after the plague in London. Labor, woefully diminished in supply, met the demand for its employment by fixing rates commensurate with the diminution. The Parliament as yet unacquainted with the inexorable law of supply and demand, sought to limit the wage to the prices prevailing before the depletion. The attempt was a failure, the law of the realm yielded to the law of economics and the wage earners' bargain was made upon the conditions of the market.

Practically, therefore, at the beginning of his national existence, at least of such a national existence from which he may fairly anticipate substantial benefit, if beside his personal services the valuable, which no man is really without, the native could be permitted the acquisition of landed interest, he would speedly begin acquaintanceship with another of the valuables, material commodities. And though his touch with the commercial credits may be yet afar, if encouragement be given to this, his first introduction to the material commodity, he is making closer acquaintance with commerce and its credits than he ever had opportunity to do under the old regime. While the commodity is an essential to the commercial credit, the personal service is but the incident of the one and the adjunct of the other. The intimacy of the two former is closer than that of the latter with either of the other two. It is of remote origin, and land of all the material commodities is first recorded as a subject for exchange. Two thousand years before the Christian era dawned, Abraham, as an eminent economic writer cites it from the Scriptures, bought the field and cave of Machpelah for four hundred sheckles of silver current money with the merchant.

Biblical authority is silent as to the nature of the title Abraham acquired, whether the grant was in fee or an easement of sepulchre only. The possession assured to him with such public formality "in the audience of the sons of Heth," would indicate that his title was indefeasible. He dedicated his purchase, however, to purposes of burial only, a gruesome beginning in far off Hebron of the world's real estate movement.

Sentiment has no place in the hard science of buying and selling. It takes two to make a bargain. The meeting of the two minds consummates the contract, each to do what he has agreed to do without diminution, without evasion. Common honesty is alone the ethical basis of the transaction. There is some sentiment though that follows the soil. It is one of God's free gifts to man—not to foster indolence or propitiate sloth, for with the gift has gone forth the edict "by the sweat of thy brow shalt thou earn thy bread." Public policy is no stranger to the purpose that seeks through a unity of title in labor and in land a surer national stability. The new and the old world have both been liberal in their invitation to individual occupancy, the one to encourage emigration, the other to restrain it. The homestead laws of our own country opened our vast western domain to the thrifty and adventurous pioneer, while now Holland seeks to check the appreciable depletion of her population by the reclamation of that portion of the soil covered by the Zuyder Zee most profitable for agriculture, and dispose of it to individual purchasers only. It is a gigantic undertaking, attended with enormous cost. That the scheme may be the more effective as an anti-emigration measure, the acquisition of title by trusts and corporations is specifically forbidden, and the prices per acre are made attractively low. Indeed, if the government is likely to pursue the same liberal policy with its colonial possessions as it has with its territories and encourage Filipino settlement with a land allotment, the white man may seek to be an active competitor in the distribution. An officer on duty in the Philippines watchful of opportunities, in homely but cogent phrase, not only sustains the economics of the proposition but observantly forecasts the outcome of the situation. In a letter that found its way to the public prints, he says, "I take no stock in the cry that white men cannot work in the tropics. They can, when working for themselves."

Two recent writers, in contributions to current magazine literature, with a philosophy that deserves a better preservation, seek, through the subjects upon which they respectively treat, to impress upon their readers the conclusion that the "altogether good" is unattainable both by men and by nations.

Of mankind, says one, "The human heart is a strange compound of good and evil, the proportions are unknown even to ourselves, but one thing we may know with certainty, no human being is altogether good or altogether bad."

And of nations says the other, "It happens that 'in the corrupted currents of this world' it is impossible for men or for nations in all their conduct to be governed by strict abstract right."

The estimates of the native character have heretofore been valueless. As has been said, the attempt at estimation is a friutless undertaking. The application of this philosophy to the negative conclusion drawn on the native's better side, would probably grade him in that class of human beings not altogether bad. His glaring fault is that he will lie. He is vacillating, uncertain, unreliable. He cannot be depended upon to follow a fixed vocation. While fitting himself for an intellectual pursuit, he is as likely to abandon his purpose for menial service as he is to continue his training. "Situations create duties." No situation has ever been created for him where it was clearly demonstrated that he owed either to himself or society a duty to maintain it. If he shall sow and reap and exchange and barter with the personal independence incident to proprietorship there is at once a creation of duties to himself and his fellow man clearly manifest in the very situation itself. There are "cheery notes," though, in all this "chorus of disparagement." The Filipino is apt with the loom and the spindle, there is a sunny side to his nature, he delights in music. Filth and intemperance are the besetting evils of the undeveloped races. The hurtful ills of intemperance have been a pernicious barrier to civilizing influences. The depravity that follows it is still, in many localities, a potent hindrance to a better advancement. The Filipino is free, entirely free, from both these evils. He is sober and cleanly. Free from the irritation and despondency of intoxication, he is patient and forbearing. In his cleanliness of person he is a model, in the neatness of his household a pattern. Civilization belongs by origin and nature to the sterner climes. It is there found in its better maturity. In the tropics, with the native races at least, it is "an exotic." It must be nurtured tenderly, developed prudently.

The Dutchman has been thrifty as an emigrant, successful as a colonizer. His aim was economics. His only politics were the politics that assured his acquisitions. If the betterments of civilization came of his occupancy they followed as an incident, not as the intent of his mission. As an immigrant, he fled from Spanish persecution, settled in southeastern England, and, teaching the English artisan new lessons in craftsmanship, impelled the British nation to the higher attainment of its vast industrial development. As a colonizer, he took Java, with her fifty-two thousand square miles of undeveloped soil and her five million semi-barbarous people, and with his so-called "culture system," in less than half a century, increased the population seventy-three per cent., and made the island a garden spot of vast "exqusite beauty," "the finest and most interesting" in all the tropic zones. He opened schools in the most populous districts, but forbade his priests and clergy to proselyte the native. His "culture system" was realistic nationalism long before the exposition of the new philosophy. The native tills the soil, the government takes the product and profits are shared between them.

The recent experiences of a traveler of reputation in far off eastern Asia are illustrative of the fact that with all our nineteenth century progress we are still abreast with the rural simplicity of pentateuchal times. In the lengthy journey from Pekin to St. Petersburg he thus cleverly describes the change as he crosses the Mongolian-Siberian frontier: "Although their land was richer, the people seemed less well-to-do. Their tents were smaller and poorer. They seemed to be more eager for money, more on the outlook for 'tips,' less ceremoniously polite. In a word, we had passed from a nomadic and pastoral people, content with their flocks and indifferent to money, and were among a people so much in touch with civilization that they knew they were poor." They were disturbed by the debasement of penury, but not yet awakened to the refinement that rejects the proffer of the unwilling gratuity. Their perceptions were quickened by a new presence that supplied the satisfaction of desires with which in their more primitive state they were wholly unacquainted. Their rude speech and coarse life had not prepared them for the self-dependence of personal energy. They had not yet learned that mendicancy is repulsive to manliness, that poverty has its dignity as well as riches. An equally crude acceptance of christianity pervades the heathen border line. A first acquaintance with the forms of worship is not always accompanied with a proper spirituality, and when it is sought to exhibit proficiency, the missionaries tell us that it is sometimes with difficulty that they suppress the convert's demand for tobacco before, as the convert styles it, he will furnish his halleluiah. The Philippine islanders are largely a nomadic people. They may not now know that they are poor. They will when they touch American civilization and begin to know American ways. Where there are landed estates they are large and their titles are not wholly secure. Most of that land seems to be practically vacant and awaits pre-emption.

Money, a thing of value, a medium of exchange, is as well a solvent. Its introduction supplied the first method for distribution. Until a standard was devised for the determination of value, wealth was incapable of measurement. The flocks and herds and lands and possessions stood for themselves alone. They were substances of intrinsic worth, but with no calculable value. Their possessor was at the same time a rich man and a man of station; with his wealth was his influence; with his station his authority. There were no middle classes; it was riches for the few, poverty for the many. The poor were held to service, dominated by the authority, awed by the possessions of the rich. There was no way to distribute the lordly holdings of the master until something of representative value was invented into which these holdings might be ultimately converted. The poor man could have no hope or expectancy of like enjoyments with the rich, the estates were too vast, the leap was too great, there were no steps of gradual approach. What was to be the medium, the intervention of which would permit their acquisition in lesser proportions, where the possessor of the medium did not control it in sufficient volume to secure the whole? Abraham applied the first practical test when he converted a surplus from his vast Egyptian proprietorship into money and then invested that money in a real estate operation in distant Hebron.

It was "one of the initial steps in the progress of civilization," when "money current with the merchant" was devised as the expedient to relieve the difficulties and remove the hindrances incident to the direct exchange of services or materials, each for each, or the one for the other. Its earliest functions were to break bulk, to expand trade, to save time, to eliminate distance, to equalize commodity balances. It encouraged association, engendered confidence, relieved the feebleness of isolation, awakened a sense of personal dignity, strengthened individuality.

The fulfillment of all these intendments in our new possessions, though distant, is yet attainable. Only the domesticated natives know of money and its purpose. Mexican silver, the currency of the commercial centers, does not invite confidence. Its value fluctuates. Too bulky for convenient carriage, it has encouraged a pernicious system of small credits, that frequently involve serious losses. Counterfeit coin is plentiful. Good money, the mutual confidences of commerce, the independence of land proprietorship, are sterling factors upon which the economic evolution of the Philippines must eventually be dependent.

Christianity, the hand-maiden of civilization, is confined to the few, and filtered, as it has been, through a debased priesthood before it has reached its converts, it will afford but little succor towards the leaven of the unregenerate masses. Policy, propriety, safety forbid interference with pagan practices, heathen beliefs, the worship of false goods. The Commissioners have guaranteed immunity. Intelligence, integrity, capacity have been hindered rather than encouraged through the centuries of touch the Filipino has maintained with his Latin ruler. Only a long and acceptable acquaintance with the Anglo-Saxon and his methods can accomplish for the natives of the Philippine archipelago what they are manifestly unfitted to accomplish for themselves.

In a recent communication to the Navy Department, Admiral Dewey concisely and intelligently epitomizes the situation.

"Although," says the Admiral, as he concludes his report, "under the rule of the United States, the character of the natives will certainly improve, a sudden change is not to be expected. A few of them might be employed on transports and vessels of that kind; indeed, the Filipino quartermasters who have been serving on the Nanshan and Zafiro since the purchase of those vessels, have always been satisfactory, but because of their long association with Americans and Englishmen they belong to a class apart from the great majority."

The unconscious tribute of the Admiral to the fruitfulness of Anglo-Saxon association inspires a hopefulness that that association will solve the problem of Philippine regeneration. The efficacious results of the long familiarity of the small minority with an American and English opportunity must be equally beneficial when a like propitious advantage is afforded the great majority. The successful ministration of the economic sciences only awaits closer intimacy and wider dissemination.

THE SILK INDUSTRY.

For information contained in the following article on Silk Culture, the Bureau is largely indebted to the American Silk Journal Co.

GENESIS AND INITIAL PROCESSES.

The silk manufacture having attained a commanding position in this Commonwealth, its growth within the past few years being altogether phenomenal, unequalled by anything recorded of the industry in the annals of any other state since the manufacture was established in this country some sixty years ago, it seems eminently proper that somewhat as to the origin and processes and also an outline history of the "Queen industry," also somewhat as to processes of manufacture be presented in this work. It is proposed merely to sketch those earlier stages of silk culture and manipulation and pass rapidly on to the pleasant task of chronicling the first beginnings and subsequent advancement of the fascinating industry in our State, where, since it was planted and became firmly rooted in the soil, it has grown to goodly proportions, adding largely to our material prosperity and affording food and shelter to thousands of thrifty and industrious workers in nearly fifty towns and hamlets throughout the Commonwealth.

Imprimis, a few words as to the character of the silken fibre. It is a curious fact that for silk, of all filamentary substances, that which gives the finest, most durable and most elastic thread, with a tenacity equal to that of good iron (that is to say, a thread of silk of like size to one of iron will support nearly the same weight before breaking); a filament, too, that lends itself to the production of the richest, most costly and most beautiful of all known fabrics, we should be indebted to a repulsive worm; but it is even so.

Silk is a liquid, gummy substance, secreted by certain insects from their food, and is contained in cells or tubes on each side of their bodies, and at their volition is drawn out through the minute orifices of the organs called "spinnerets." From two to six of these filaments, being united as they are drawn out, harden and strengthen and form a fine but remarkably strong thread, which is used by the producers themselves for a variety of purposes. Some, like the silk-spinning spider family, use the threads in forming a kind of suspension bridge on which to travel back and forth; also in forming traps, or webs, wherein to catch their prey.

But our interest centers chiefly in the caterpillar silk spinners, which form a cocoon of their thread and, entombing themselves therein, pass into a chrysalis state. We may still further narrow the subject to the Bombycidæ family, which do not attempt to spin until they are ready to pass into that state, and even of this family there are but twelve to fifteen species whose cocoons are available

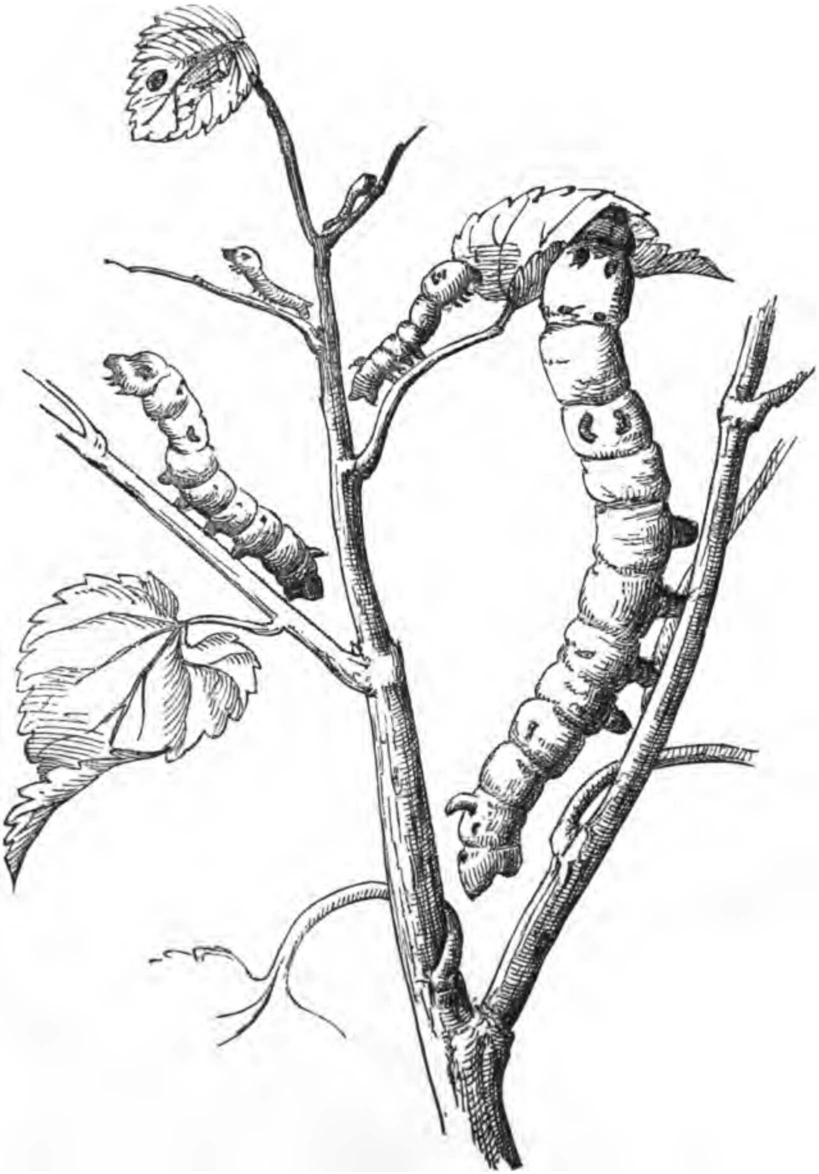

Figure No. 1. Silk Worm.

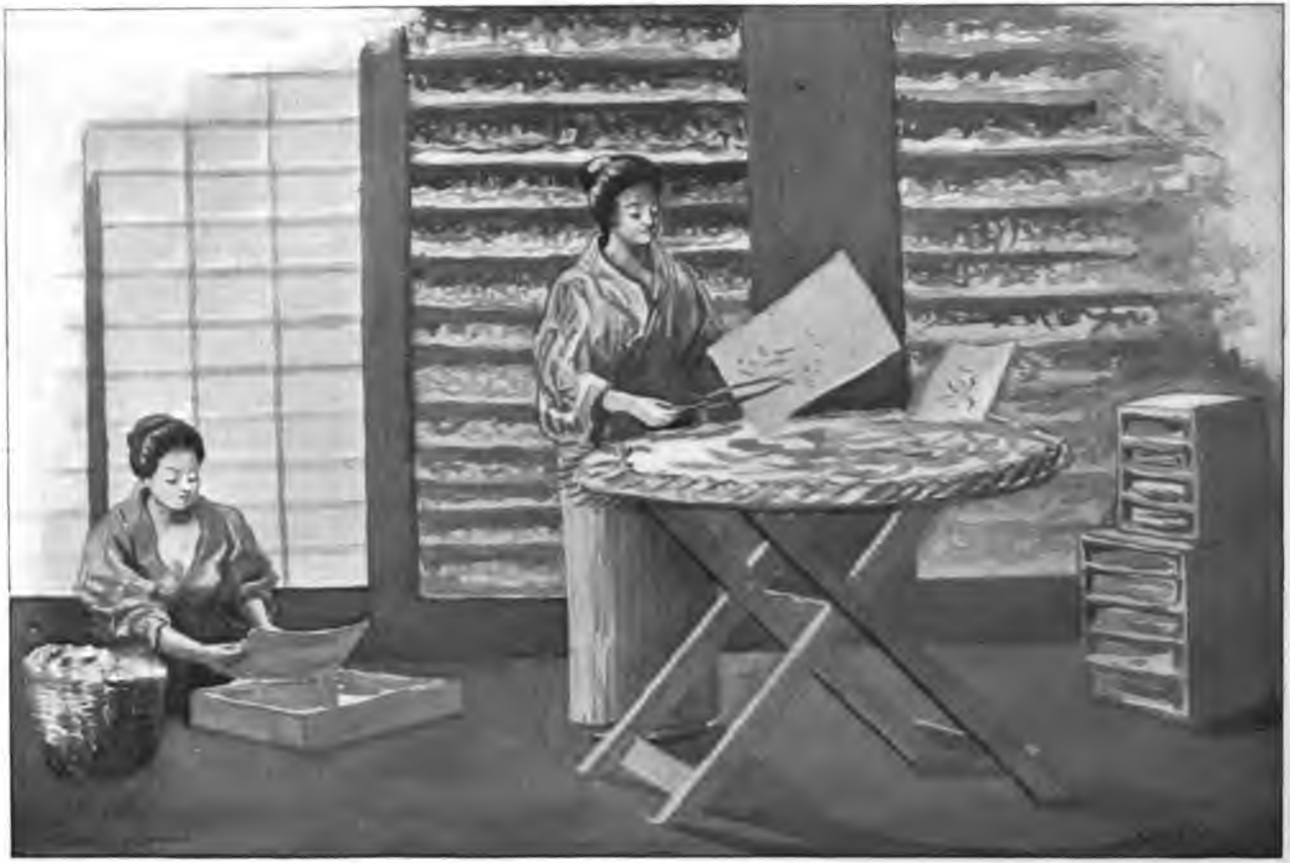

FIG. 3. Transferring Moth Eggs from the Mulberry Leaves. (See page 21.)

for commercial purposes. Best of all is the genus Bombyx, which feed by preference on the leaves of the white mulberry (Morus alba), though they may be reared in other foliage, including the Chinese mulberry (Morus Multicaulis), the osage orange and a few others. (See figure No. 1.)

The Chinese and Japanese who pet their silk worms almost as they do their children, have some odd names for the different species of good spinners, among them being, according to the Chinese work, Tsan-hing-shu, "The Silk Worm with the White Head," the "He-tsan," or "black silk worm;" "Hoi-cul-tsan," or "ash-colored child;" "Kin cul-tsan," or "gold-stuff child." The cocoons of the Japanese silk worms are mostly of a pale green color; those of China, white or yellow, sometimes tinged with green; those of the best districts of Turkey, pure white; those of Italy, yellow.

We will now take the silk worm at the stage of its changeable existence, when it is in the form of a moth miller or perfect insect. (See figure No. 2.) In this form it enjoys but a brief life, from two or three days to a week, during which the female lays about 400 to 500 eggs, about the size of a mustard seed. These usually adhere by a gummy substance to the mulberry leaves, whence they are carefully removed, usually with a feather, to sheets of paper. (See figure No. 3.) The eggs may be kept in a cool place without hatching for months; they are an article of commerce and may be and frequently are carried around the world.

When the foliage food is ready for the young worms the eggs are placed in the proper temperature and are hatched, the worms being at first about one-twelfth of an inch in length. Immediately they develop an insatiable appetite and devour twice their weight daily of mulberry leaves as they are fed. (See Figure 4.) Under varying conditions they attain their full size in from twenty to fifty-six days, during which they cast their skins four times, while in a lethargic state. Fully grown, they are about three inches in length and have increased in weight from 1-100 of a grain to 80 or 90 grains, or 8,000 times their original weight.

Now the worm will spin. Attaching himself to a twig, he builds the outside of his cocoon first, then, turning himself over and over towards the center, paying out his silken cable as he goes, he continues the work until he has spun himself nearly to death, and he has walled himself into a cocoon, formed of a delicate gum-matted thread five hundred to a thousand yards long, the only example on record of a living creature retiring into a hole and "pulling the hole in after him."

Just here his life ends by transition to the pupa or chrysalis, which, in from twenty to forty days, is ready to eat its way out, transformed again into a joyous moth or butterfly, who would at once seek a mate and repeat the reproductive process above described, but man steps in and kills the moth by placing the cocoon in steam or a hot oven, as his exit would break and destroy the cocoon fibres or thread, leaving what is known as a pierced or perforated cocoon, of value only as waste, of which we shall treat later on. Thus, paraphrasing a time-worn adage, the worm proposes but man disposes, and rings down the curtain on the "continuous performance" ere the commercial value of the cocoon is impaired. (See Figure 5, showing cocoon, with worm inside, and Figure 6, showing pupa or chrysalis lying in a state of torpor within.)

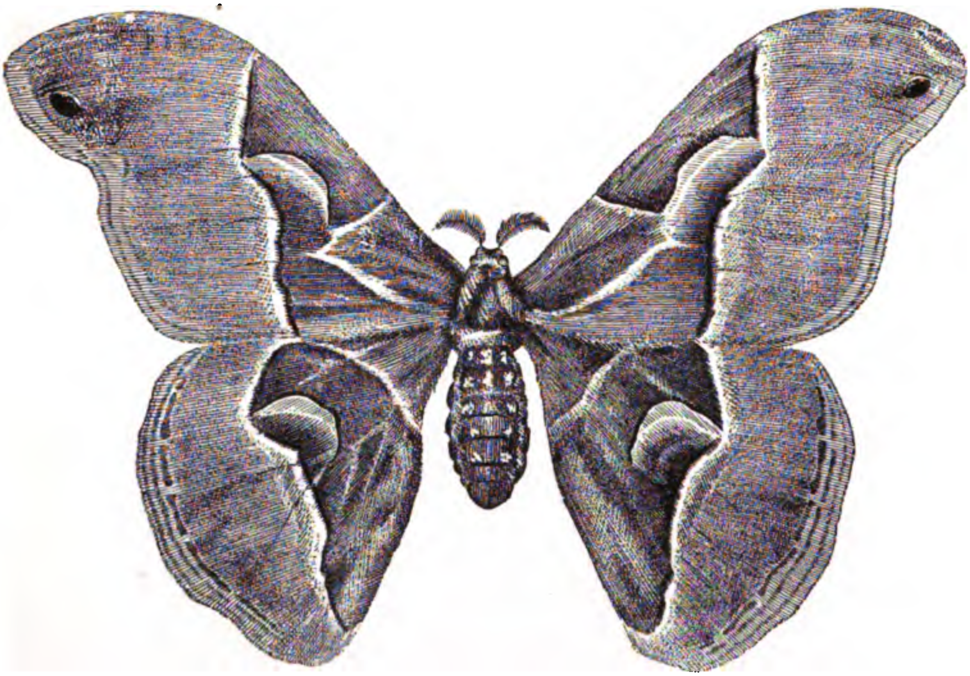

Figure No. 2. Moth Miller.

And now that we have achieved a perfect cocoon we have to reel the delicate fibre, a most important work, as the value of the raw silk depends largely upon the manner in which it is performed. There are two methods; it may be reeled by hand in households of the growers, by the crudest and most primitive appliances; or it may be done at a government filature, where the reels are operated by power and the work is performed with the utmost skill and by experts, with improved methods. The Chinese product is mostly "country silk," which must be re-reeled before it is fit for use. America gets the very best raw material exported from all silk-producing countries, it being found most economical; owing to the higher wages

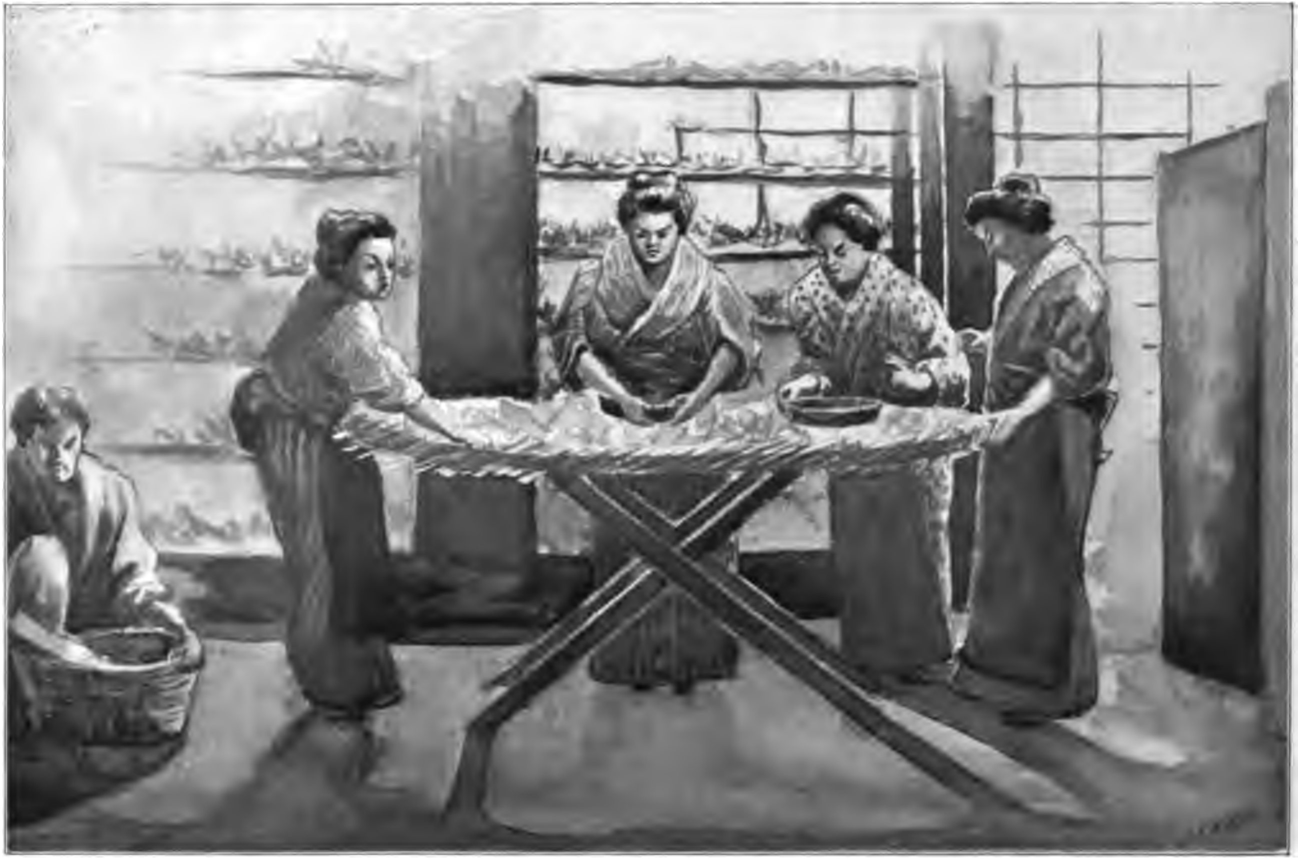

FIG. 4. Feeding the Worms. (See page 21.)

paid for labor, it does not pay to use inferior sorts. In Japan, the reeling is largely done at the filatures.

The implements used to convert the cocoons into silk are most simple in all countries in the world. (See Figure 7.) They consist principally of a basin and a reel, the basin containing warm water to loosen the gum from the outside layers until the ends of the threads can be caught up. A union of these threads from several cocoons forms the raw silk of commerce. The reeler dextrously unites them in their soft state, and they are given a peculiar twist and a pressure that causes them to adhere as one filament. The number thus united depends upon the standard of raw silk sought to be produced. The silk has yet to be put into hanks for baling in readiness for shipment, and this process is shown in Figure 8.

In all these processes in the preparation of the silk for export the cheapest labor of the orient and of Italy is employed. Girls in Japan are paid from five to seven cents a day and board, which latter is counted at three or four cents a day. Female weavers receive as high as ten cents a day; male weavers, fifteen to twenty cents and board themselves. The "board" consists of a little dried fish, thin gruel, barley tea and sometimes a few vegetables. Working hours are from 5 A. M. to 10 and 11 P. M. seven days in the week. In China wages are, if anything, lower; in Italy they are from one-third to one-half more than in Japan.

A few words just here about the article known as "spun silk." Allusion has been made to the pierced or perforated cocoons from which the moths have emerged and which are spoiled for reeling through the cutting of the fibre. These, together with all inferior, unreelable cocoons, filature waste, mill waste (the tangled and broken threads resulting from the handling of the fibre during the many processes it must undergo), and even the sweepings from the floors, form the basis of spun silk products. The difference between waste and ordinary raw silk is simply a lack of continuity of fibre. The former must be combed straight, ungummed, passing through many processes, then carded and spun much the same as flax or cotton.

The machinery employed in this branch is built almost exclusively in England and is exceedingly delicate, peculiar and costly. Ordinary waste has a most unpromising appearance, as being practically valueless, but when fully prepared for spinning it looks like the whitest of combed fleeces, and gleams with the lustre of spun glass. Any standard of thread or yarn required can be produced from it, and very superior fabrics also are made, wholly or in part, from this material. It is largely used in conjunction with reeled silk, the best effects being produced by using the more brilliant reeled silk for the surface of the fabric and the spun silk for the body; to achieve a dead surface with lustrous figure this method is reversed.

Of late years the most marvelous and effective machinery has been introduced in France and in England for the disintegration and utilization of silk chiffon, or rags, which are put in the machine at one end and emerge from the other end in carefully classified filaments of uniform length and fineness, ready for spinning. None of this work is done in this country, and the establishments in the United States, where ordinary waste is manipulated, are few in number—not more than half a dozen in all—the spun silk industry not being especially strong with us, though the product fills a certain place of its own in the market and supplies a cheap and serviceable material.

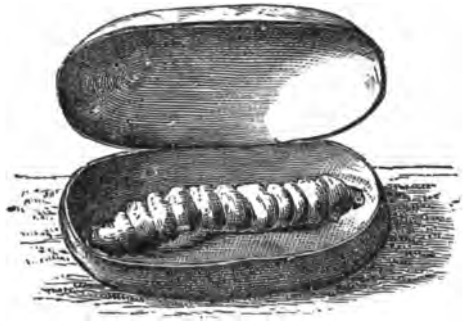

Figure No. 5. Cocoon with Worm Inside. (See Page 22.)

Only a small space of the limited amount that can be afforded to a sketch of the silk industry may be devoted to a glance at the several substitutes for the product of the silk worm; and first and most interesting among these is the product of the silk-producing spider, comparatively small in quantity, owing to the uncertain tempers of this class of spinner, but of exquisite quality and almost priceless value. Queen Cleopatra's robe, that could be drawn through a finger ring, is thought to have been made of spider silk.

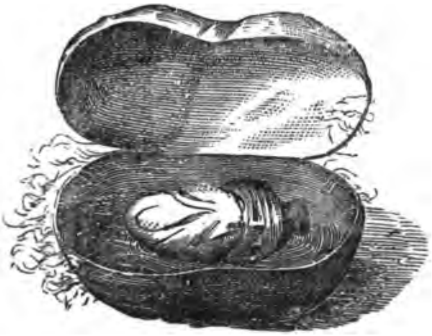

Figure No. 6. Chrysalis Lying in a State of Torpor. (See Page 22.)

The great difficulty is to procure a sufficient number of spiders.

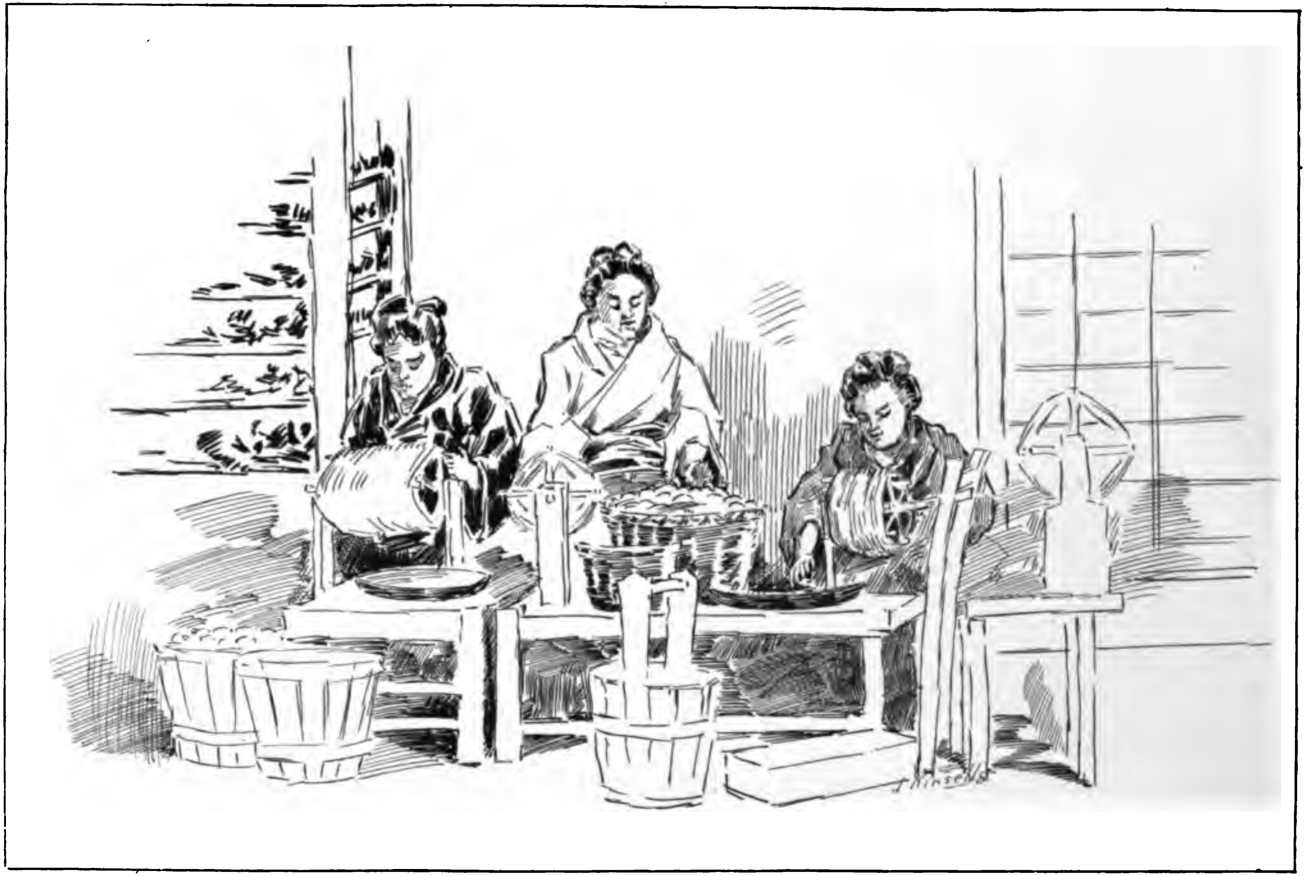

FIG. 7. Converting Cocoons into Silk. (See page 23.)

since they cannot be—or have not yet been—bred and reared like silk worms, so as to maintain a continuous industry.

Another difficulty is found in inducing them to relinquish their web; some, especially the large Madagascar spider, which is a prolific spinner, are exceedingly ugly and vicious.

Quite recently, the London Society of Arts offered a premium of £1,000 for a practical method of producing spider silk, and an entomological Frenchman, M. Cachot, has claimed the award. He has, at his place near Paris, a vast number of spiders, of all species, and has succeeded in reducing them to a fair state of control, so that the quantity of silk drawn from them is quite considerable. He has constructed an ingenious device in the form of an automatic slowly-moving reel (See Figure 9, to which the web it attached, the pull being just sufficient to induce the spider to resist the tension and make him a confederate in the robbery of his own product; he thinks he is spinning his web.

When one spider is "spun out," he is detached and put away, to be fed and petted, and another is substituted until the bobbin is filled, and so on. It will be seen by the foregoing that this ingenious Gaul has discovered a much better way than that of the tidy housewife, whose only idea of the proper treatment of spiders is to chase them into a corner of the ceiling and crush their lives out with a broom.

A number of so-called substitutes for "silk worm silk" have been exploited of late years, the first to appear being that of Count Chardonnet, of France; the second, that of Dr. Lehner, of Augsburg, Germany, now operating in Switzerland. Both systems are based on the idea of producing imitation silk from the same material as the silk worm feeds upon, thus eliminating the ancient and original spinner altogether and usurping his functions. Briefly described, the modus operandi is to convert the wood fibre into cellulose, and then, by a treatment of nitro-sulphuric acid, into nitro-cellulose, after which it is freed from the acid and dissolved in a solution of alcohol and ether, thus forming collodium, which is pumped through glass pipes provided with extremely fine holes, and these collodium threads are passed through warm water (acidulated), which causes the alcohol and ether to evaporate, and only the fine nitro-cellulose threads remain. A number of these fine threads are brought together, slightly twisted and spooled.

This extremely lustrous, but also easily inflammable, even explosive, tissue was put on the market at the time of the Paris exposition, in 1889. Owing to its great liability to catch fire, it did not come into practical use for some time; but since this difficulty was overcome by removing the nitro group (a process called denitrating), the improved fibre has been employed to a limited extent.

Lastly, however, in 1898, a method was invented by Dr. Felix

Fremery and Civil Engineer Urban, of Crefeld, Germany, in which the use of the objectionable nitro-cellulose is omitted. These two inventors dissolve cotton waste in copper oxide of ammonia, and pump this solution through fine tubes. The delicate threads are passed through diluted acid, which separates the copper and ammonia, the result being an extremely fine, lustrous fiber, which is employed as an imitation silk. This process, patented in Germany and in all other civilized states, is said to have the following great advantages over those of Chardonnet and Lehner:

(1.) That the manufacture, as well the the product, is in no way dangerous.

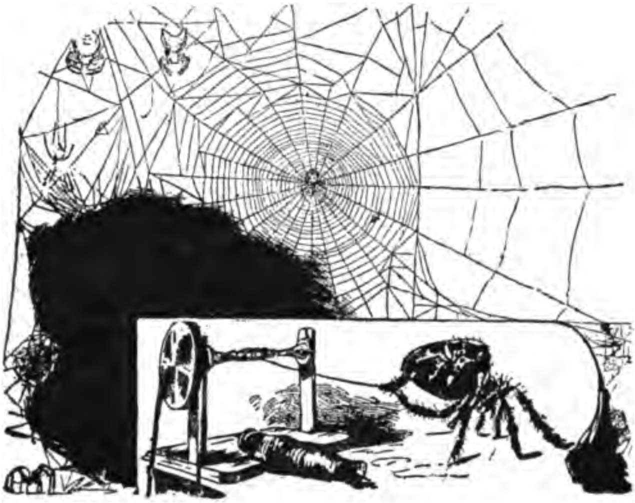

Figure No. 9. Silk Producing Spiders. (See Page 25.)

(2.) That the production is much simpler.

(3.) As a consequence, that imitation silk can be manufactured by this process at considerably less cost.

The United States consul at Bremen, Germany, Max Bouchsein, reported exhaustively on this process near the close of the past year.

Another and cheaper substitute for silk is "Vanduara," which is made from glue or gelatine, as to which it is claimed that one man operating an automatic machine can turn out, in ten hours, 480,000 yards of "silk" equal to the produce of 24,000 cocoons. Then there is a so-called silk, cheap and strong, made from mercerized cotton, by use of caustic soda, after the formula of Joseph Mercer, of Bradford, England, an article that is coming largely into use. But the finished product "looks like thirty cents," as compared to the lustrous fabric resulting from the filament of the renowned Bombyx family, who, despite all competition, are "still doing business at the old stand."

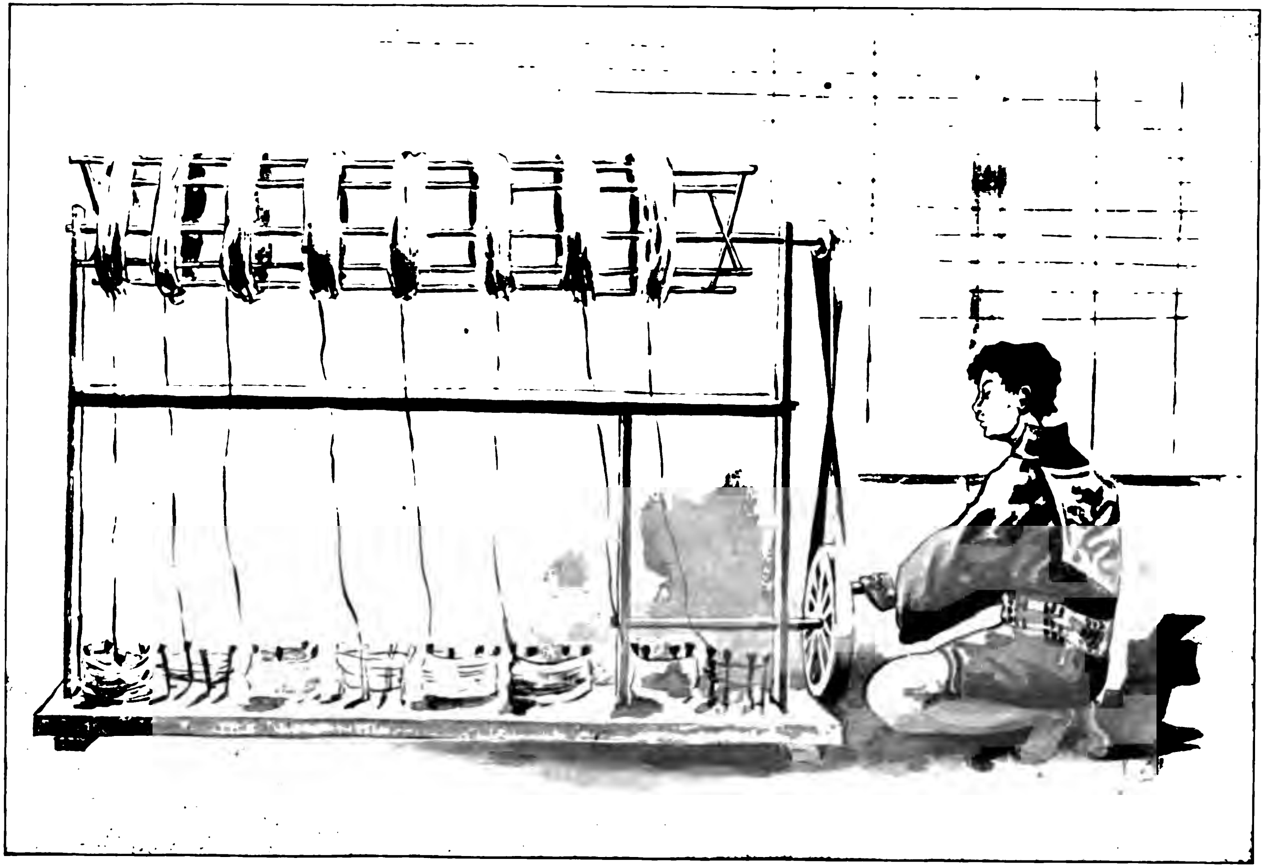

FIG. 8. Putting the Silk into Hanks for Shipment. (See page 23.)

THE SILK INDUSTRY—FROM FIBRE TO FABRIC.

The preparation of the ordinary raw silk for the loom is called "throwing," and about a dozen distinct processes are involved in this branch of work, the product being "singles," "tram" and "organzine," respectively. The first named is formed by merely twisting the raw silk; tram, or woof of the fabric, is obtained by the union of two or more threads of raw, slightly twisted; organzine, usually employed for the warp, is the result of two or more singles to which a harder twist is imparted.

As serving to show the labor involved in silk manipulation, we may say that a thread of ordinary sewing silk may contain 200 threads of the original worm filament as it came from the cocoon, and also that more time is required to "build" a spool of silk than to build an ordinary locomotive.

To illustrate more clearly the tedious processes of preparing the silk for the loom, they are placed in their proper order, as follows:

For Organzine.	For Tram.	For Both Organzine and Tram.
Assorting.	Assorting.	
Winding.	Winding.	
Cleaning.	Cleaning.	
Spinning.	Doubling.	
Doubling.	Spinning.	
Twisting.	Dramming.	
Dramming.	....	
....	....	
Winding.	Winding.	Dyeing.
Cleaning.	Cleaning.	
....	Doubling.	
Warping.	Quilling.	
Picking.	....	
....	....	Weaving.

Figures 10, 11 and 12 show examples of the modern winding, spinning and doubling frames, respectively; Figure 13, a quilling machine; Figures 14 and 15 views of the interior of a throwing factory. Figure 16, view of a soft or dyed silk winding room.

We may remark just here that the wages paid in the throwing branch are lower than in any other, the processes being so simple in the main that any half grown girl or boy of fair intelligence can learn very quickly.

In regard to the machinery employed, a tremendous advance has been made within the past twenty years. Prior to the introduction of the Atwood system of throwing machinery, the speed of spindles did not exceed 3,000 to 5,000 revolutions a minute; the Atwood machine at once increased this to 10,000 revolutions, and since then a speed of 12,000 to 15,000 and even more has been achieved. A veteran throwster even talks of 20,000 to 25,000 revolutions as being possible, but admits that the resultant product would not be satisfactory if spindles were speeded to that degree. In the Italian system of throwing, which is a very slow process, the heavy wooden

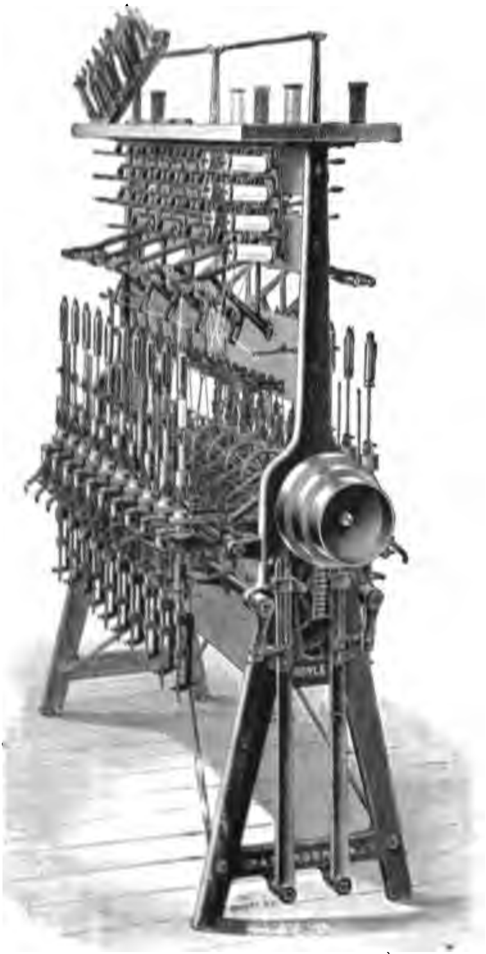

Figure No. 18. Quilling Machine. (See Page 27.)

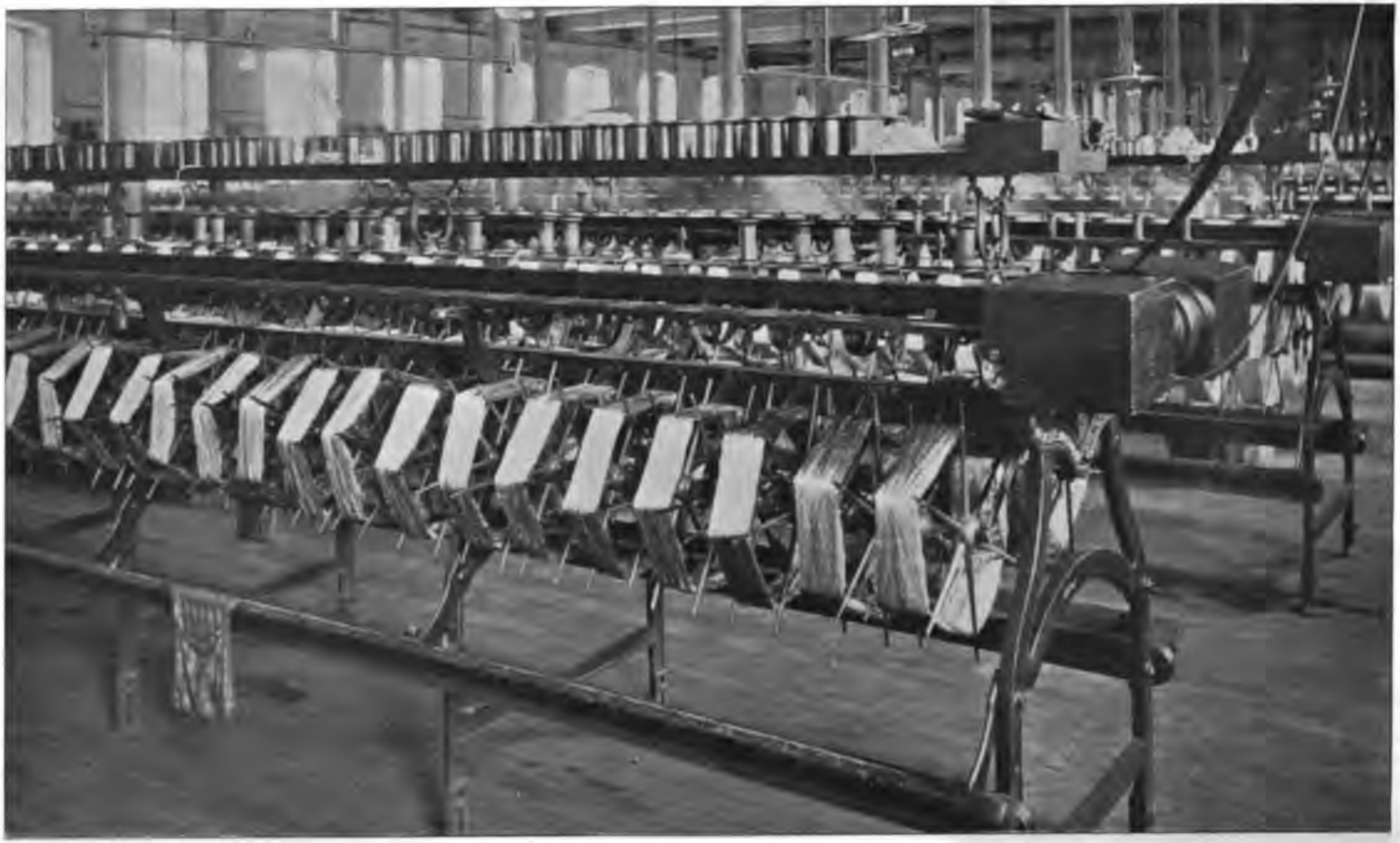

FIG. 10. Soft or Dyed Silk Winding Frames. (See page 27.)

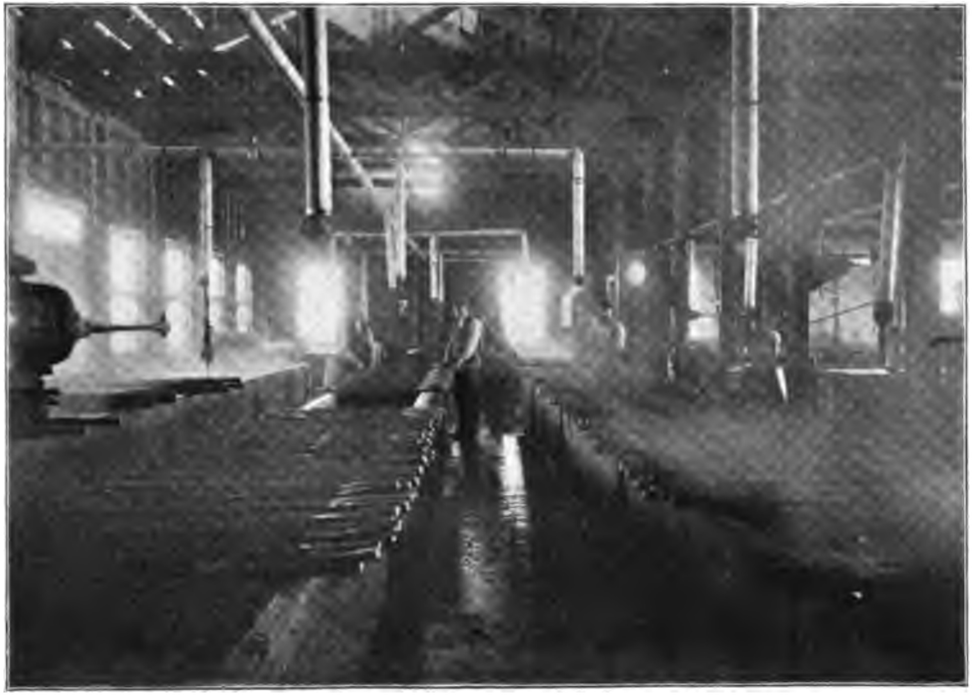

Figure No. 17. Interior View of a Silk Dye Works. (See Page 30.)

Italian frames are used and very superior yarns are made—for special purposes.

In each process the silk passes toward the loom—excepting only the dyeing—imperfections in the thread cause of loss of time, money and material. A stoppage of the machinery to reunite a broken thread is a serious matter. "It costs," remarked a veteran manufacturer, "fully five times as much to tie a knot in this country as it does in France." Hence, the careful sorting and "dramming," or weighing. "Picking" consists in spreading out every thread of a warp on a slowly moving frame, so it can be inspected separately for the removal of all lumps, knots or inequalities of any sort. For this work the trained eye and the deft finger are indispensible.

The dyeing is a most important branch of silk manufacture. This may be done, either in the skeins or in the piece. Much the greater proportion of the goods produced in this country are skein-dyed, and we have still to glance at the processes in this department before we are ready to bring our threads of reeled and thrown, or spun, silk to the loom to be fabricated into the many beautiful stuffs which are the completed products of the industry.

Black is always a leading color—if it is a color—but the great variety of colorings and shades is now a chief feature in dyeing silk. In the earlier years the range of tints was very narrow, but since the dyeing has come within the domain of science, the purity, brilliance, delicacy and variety in the tones produced are almost incredible. This infinite, almost endless variety of hues is largely due to the vast improvement in the use of aniline dyes, which are now utilized to produce any tint, shade or color that may be desired.

Many of the more brilliant shades are naturally fugitives, but this difficulty also has been overcome almost wholly by the discoveries of chemists who apply themselves exclusively to the various problems of the color shops in leading dyeing establishments. Some of their achievements in combining color are truly marvellous, one leading dyer exhibiting the solar spectrum in colored silk with striking effect, upward of 100 shades being used.

It is claimed, probably with truth, that the dyes and chemicals imported for American shops are of the very highest quality, much superior to what are used in Europe. As to weighing, with excess of material, let us not suppose our dyers are ignorant of the art. If the manufacturer wants loaded silk he can have it to order.

A variety of material is used for this purpose, including tin crystals and various metals in solution, all of which, used in excessive quantity, have the effect of rotting the fabric and bringing discredit upon the manufacturer. But these deleterious substances impart weight and apparent body to the cloth and the fair customer thinks she is getting a great bargain in silk, when, in fact, she is buying mostly tin.

Pure water is a sine qua non in silk dyeing, and this being found of a very superior quality in Paterson, it has done much toward making that city the chief centre for custom dyeing, though several Pennsylvania towns also can boast of well-equipped dyeing establishments of the first importance, an interior view of one of these latter being presented in Figure 17.

Whether the weaving is to be done by hand or power loom, the next step after the silk is returned from the dyer is to make the warp. If the warp is intended for the dress piece to contain 5,000 threads, 200 spools are arranged on steel wires or pins, on which they are to revolve as the threads are drawn off, all of which are placed at appropriate distances in an upright frame called a creel. Opposite this, about two or three feet distant, stands the "mill," a wooden frame cylinder about seven feet high, and from five to ten yards in circumference. (See Figure 18.)

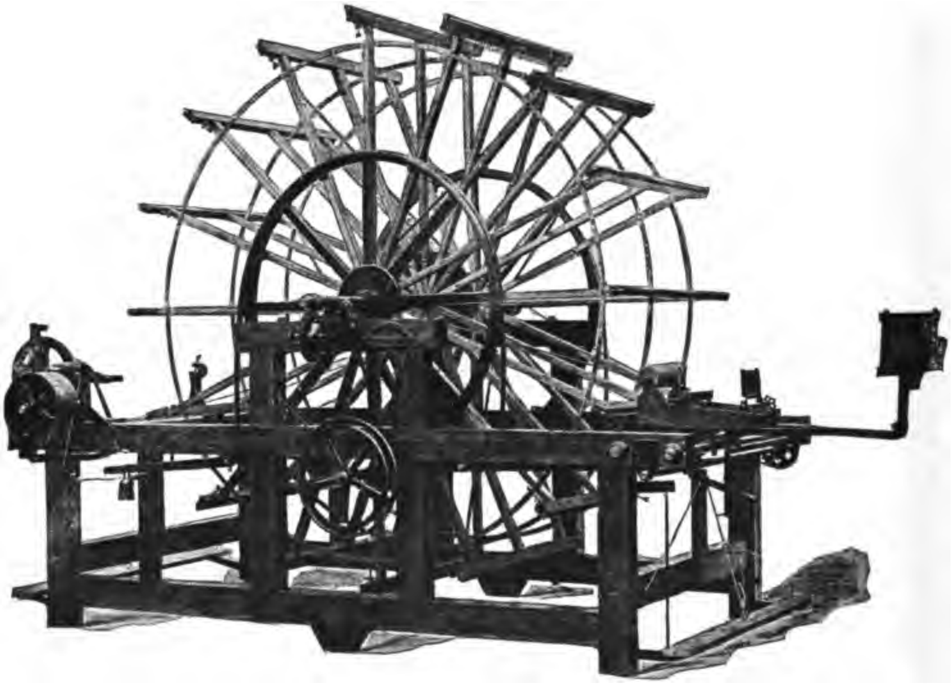

Figure No. 18. A Silk Warper.

This revolves on pivots and is turned by a crank, at the convenience of the warper. The ends from each spool are passed through 200 eyelets, forming a part of a piece of mechanism called a "jack," which divides the threads and guides them on the cylinder or warping "mill," where it revolves. The jack is affixed to an upright beam situated

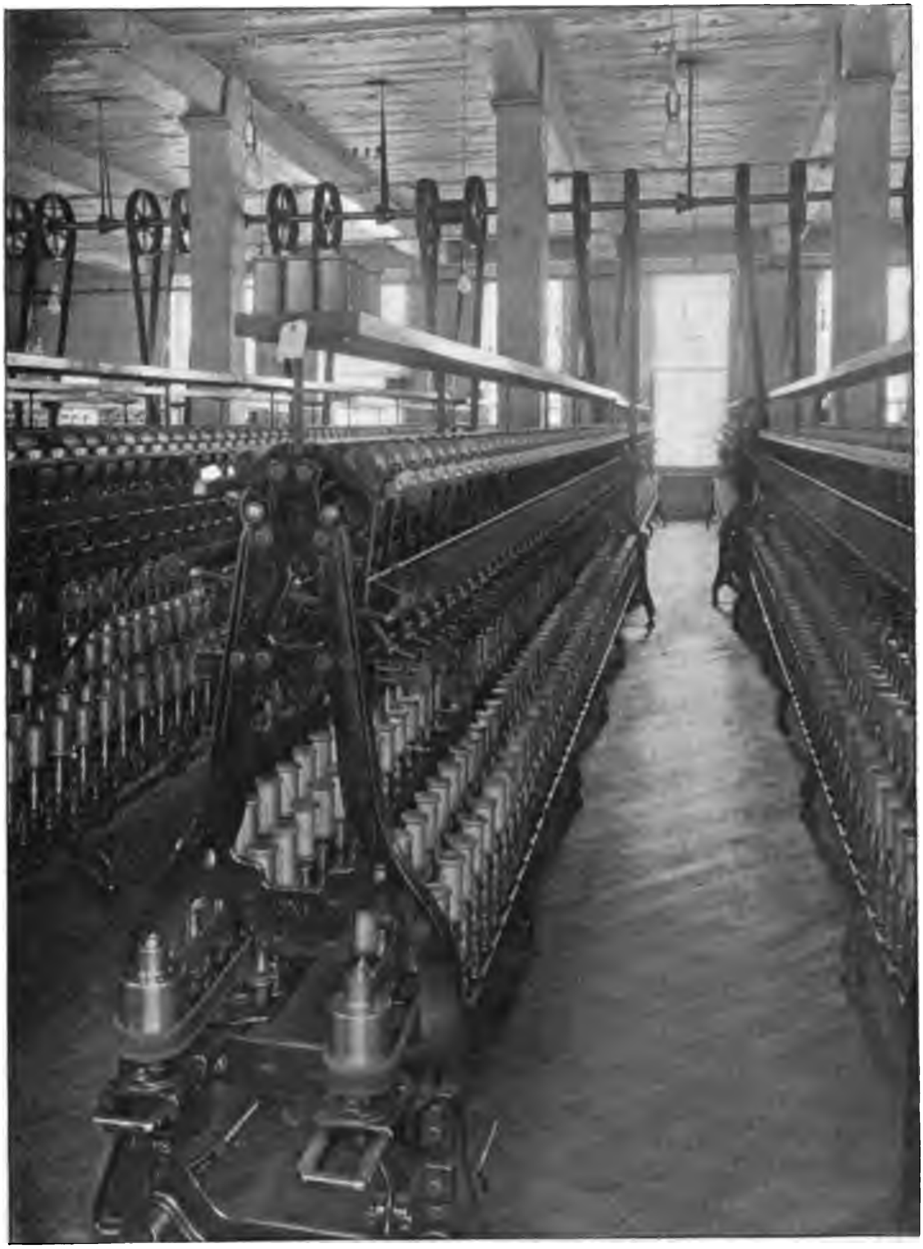

Fig. 11. Hard or Raw Silk Spinning Frames. (See page 27.)

between the mill and the creel, traversing from top to bottom and from bottom to top, the "jack" being drawn up by a cord attached to the upper pivot and let down by the unwinding of the cord.

For a 5,000-thread warp and 200 threads or spools to the creel, it is evident that twenty-five upward and downward motions of the "jack" are necessary before the bulk of the warp has received its full quota of threads. When finished, the warp is drawn from the mill and carefully balled on the hand. The ball is then taken to the picking frame and drawn on a roll and out in sections by a comb-like instrument called a "heck."

The warp is then drawn on the loom-roll, after first having been put through a reed, which is drawn through the warp with rods while being finally picked and wound on the second, or loom roll, and threaded through the heddle, the number of the heddles varying according to the fabric to be woven. This is the plan generally in use for organzine warps, though some manufacturers have adopted new and labor-saving machinery for the purpose. The above is the process, whether the weaving is to be performed by hand or power loom. and whether the product is to be plain, twilled or figured, by means of the Jacquard.

It is unnecessary to go into a minute description of the various looms in use for silk weaving. The old hand loom (see Figure 19), which was formerly heard making its peculiar clatter in so many Paterson homes, is one of the oldest, simplest and most widely used piece of machinery in the world. It was known in almost its present form to the Egyptians and Persians, and in India and China, in which latter country it was used more than 4,000 years ago. There is even a statement to the effect that it antedates the flood.

The upright posts, the different sets of treadles, or harness, depending from the cross-beams above, through the loops or eyes of which the threads of the warp are passed; the roller moved by a crank, around which the warp is wound, and a second roller to receive the goods; the shuttle, which, with its bobbin, carries the thread of the weft or filling; the swinging bar, the reed which brings each thread home—"beats it up"—and the treadle which depresses alternately the sets of harness—who has not witnessed the operation of this simple machinery? It is understood, too, by most that the figure woven depends upon the number of treadles and the arrangement of the warp, and that for particular figures there is needed a special harness and a variety of shuttles. Figure 19½ shows interior view of a Japanese workshop.

In the invention of the power loom (see Figure 20), the questions to be solved were to make the processes of the old hand-loom automatic, exact and rapid; to obtain tenseness in the warp, to effect its gradual unrolling and the rolling up of the woven goods; to drive the shuttle back and forth at the proper time; to beat up the tissue properly; to effect the stopping of the machinery for the substitution of a new-filled bobbin when needed; and, above all, to accomplish ten or more times the work of the weaver by hand within a given period. All this has been achieved abundantly.

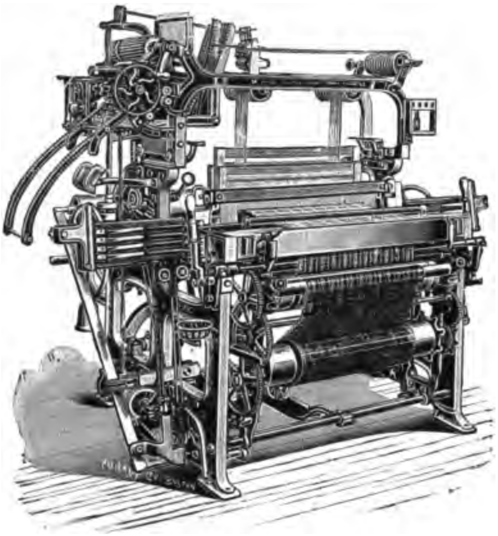

Figure 20. Power Loom. (See Page 31.)

The many improvements recently made permit the weaving of almost any class of goods on power looms and the hand loom, even in Europe, is now employed only in the production of some of the most elaborate weavers. In this country there is scarcely one left

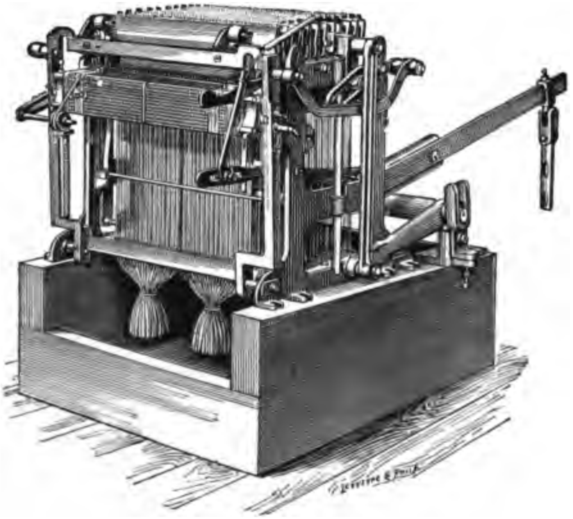

Figure 22. Jacquard Attachment. (See Page 33.)

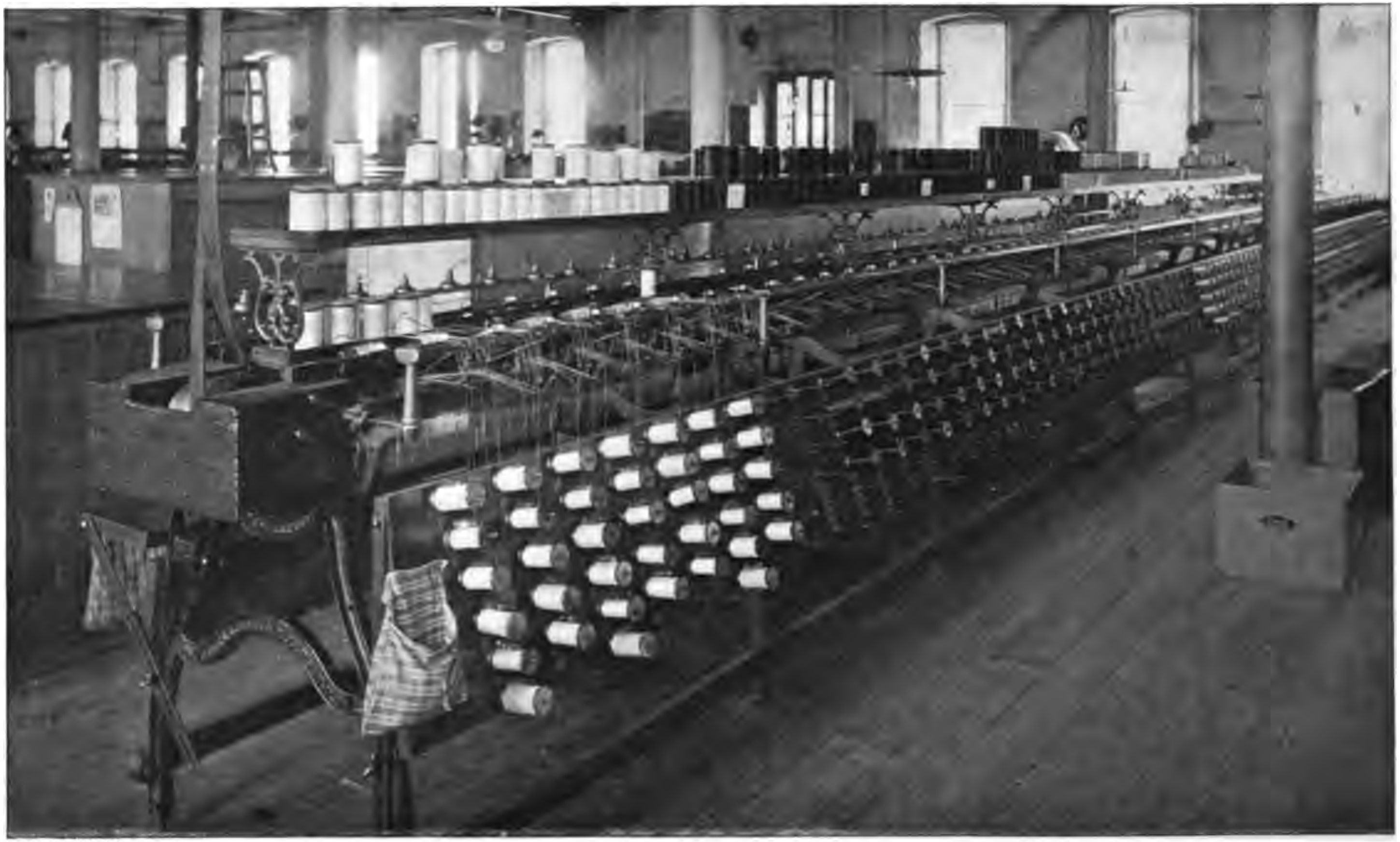

FIG. 12. Soft or Dyed Silk Doubling Frame. (See page 27.)

in operation, hundreds having been relegated to the scrap heap within the past few years.

What is usually known as the "Jacquard loom" is not really a loom, but an attachment to one, and can be adapted to any. Joseph Marie Jacquard (see Figure 21), was a Lyonnaise, a weaver, and exceedingly poor. After the French Revolution, inventive talent was fostered, and he, employed by a Lyons manufacturer, improved the then existing machinery with a view to substitute mechanical device for the labor of draw boys in making figured goods, the boys being required to maintain a position so unnatural and constrained that in a few years their health was ruined. The invention was not perfected before about the year 1800, after ten years of labor.

Jacquard made no attempt to obtain the reward offered by the London Society of Arts for such an invention, and after showing it to a friend put it aside, and for some time it was forgotten by him. To his surprise, he was one day sent for by the Prefect of the Department, who inquired about the machine and requested him to make another, the original having been lost or destroyed. This he did, and a few weeks later he was summoned to Paris and introduced to Bonaparte.

"Are you the man," asked Carnot, then Prime Minister, "who pretends to do what God Almighty cannot do—tie a knot in a stretched string?"

Jacquard answered that he could do, "not what God could not do, but what God had taught him to do." He explained his device to the Emperor, who rewarded him with a pension of a thousand crowns, gave him employment in the Conservatoire des Arts, and while thus enabling him to exercise his ingenuity in other ways, encouraged the adoption of the excellent Jacquard loom.

That, however, was almost more than imperial patronage could effect. The Council des Prudhommes, who are appointed to watch over the interest of the Lyonnaise trade, broke up this machine in the public place. "The iron (to use Jacquard's own expression) was sold for iron, the wood for wood," and he, the inventor, was delivered over to universal ignominy. Afterward the Lyonnaise were glad to adopt the Jacquard, and two years later the government bought his invention. (See Figure 22.)

Another appliance of more recent invention, known as the "dobby," is of great importance in the higher class of shaft work, since, by its use, a wide variety of "plain effects" can be achieved, such as stripings of all kinds, but not figures, properly so called. (See Figure 23.)

It is estimated that about one-third of the total output of domestic silk goods consist of ribbons, in which department of the industry the highest wages have always been paid to weavers. In fact, the weaving of ribbons, which, up to within a comparatively few years, was largely done on heavy German, Swiss or French looms, operated by men only, was regarded almost as an art industry, in which males only could achieve satisfactory results.

Consequently the guild of weavers was a power whose demands no manufacturer dare resist, with the result that exorbitant wages were paid for the work, which was done exclusively by the piece, the minimum being about $40 a fortnightly "pay," the maximum reaching as high as $75 and $80 a "pay," in case of the best weavers, employed on the finest class of work.

But this is all passed, or, more correctly stated, is passing. The power of the guild is greatly broken since the modern high-speed, light-running ribbon loom, with automatic "let off" and all the latest improvements has been generally adopted for almost every class of production, save only the very richest qualities and high novelty weaves for which the old heavy looms or more complicated modern ones are used and male weavers employed as operators. But not at the old rate of wages; this has been cut nearly or quite one-half. As for the modern loom, as shown in Figure 24, it is operated easily by young girls of sixteen and upwards, who run two looms for from $12.00 to $15.00 per week. Figure 25 shows the interior of a ribbon weave shop.

The dyeing and printing of silks in the piece is a branch in which remarkable improvements have been made by the domestic piece dyers and printers, a number of extensive and thoroughly equipped establishments being devoted to this class of work in Paterson, N. J., and elsewhere. The materials are usually pongees and various unbleached, or "ecru," silks "in the gum," taffetas, foulards and other weaves. In former years the cheap imported stuffs that were to be printed were treated almost exclusively by Lyons printers, who excel greatly in the art, but for some years past the domestic printers, who impart anywhere from one to seven, or even more, colors, and understand the art of "fixing" them, are doing about all the work for the American market, and are turning out some rarely beautiful goods, the figures being engraved on copper rolls, or cylinders, whence they are removed when the pattern is no longer wanted and others are substituted.

Printing upon the warp before weaving to produce the peculiar blurred or chiné effect, is an important feature of the business, and our print works are turning out some exquisite work of this character.

However, the silk fabric may be treated, whether the weave be plain or figured, the finishing is always of importance and forms a separate department. The fabric is subjected to a number of processes, is passed over hot rolls, or calenders, and, if required, is watered during one of the processes.

Beyond this there remains only the measuring and folding, which,

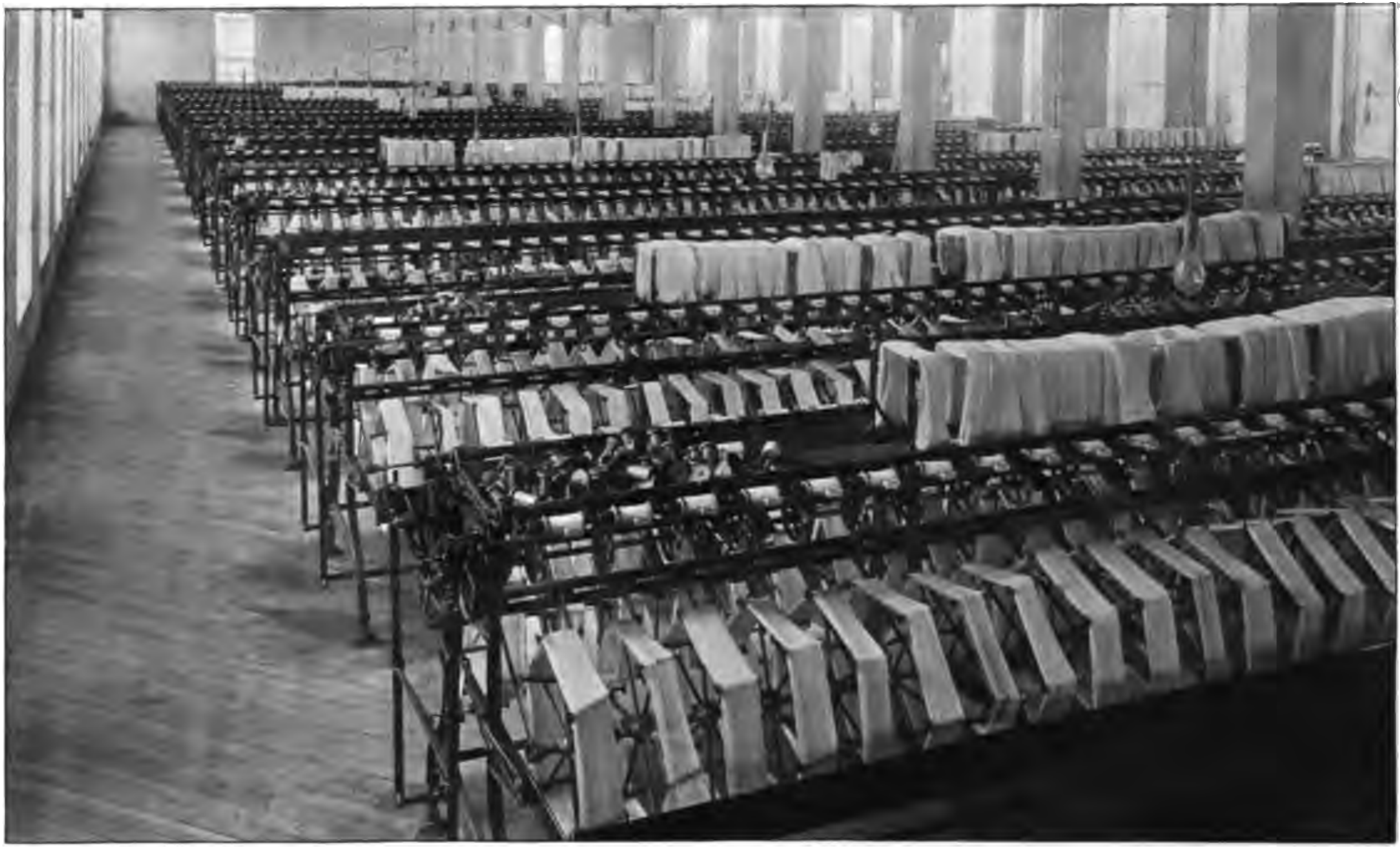

FIG. 14. Winding Room in a Hard Silk or Throwing Mill. (See page 27.)

in these days, is done at one and the same time, automatically, by an ingenious machine highly perfected and thoroughly accurate. See Figure 26. Figure 27 shows the interior of a modern "weave shop."

Apart from broad goods and ribbon production by far the most important feature of the domestic silk industry is the manufacture of threads, button-hole twist, including sewing machine twist, knitting and crochet silk, embroidery and art silks, floss, etc., the great bulk of which is made in the New England states. In this branch our domestic makers have long excelled, have "beat the world," in fact, so that not only is there no import of these goods, but there is a very considerable export for several years past, and the volume is steadily expanding.

THE SILK INDUSTRY.—OUTLINE HISTORY.

Both the silk worm and its food plant, the white mulberry tree, are native products of Eastern Asia. All available data agree that China was the cradle of silk in a very remote epoch. So far as can be learned, silk, in point of age, stands about midway among the textile fabrics, wool and flax having preceded it, while cotton, hemp and other fibrous plants followed it somewhat closely. The exact date when its use was discovered is somewhat uncertain, it being variously placed at 1,650 to 1,700 years before Christ. From this the deduction is that Hoang-ti, Third Emperor of China, contemporary of Joseph, the son of Jacob, must have been the first silk culturist and that it is, therefore, an industry of royal birth, ennobling all in anywise engaged therein.

The tradition, as found in the Chinese work Hoai-nan-wang, is that this Chinese Emperor, desirous that Si-ling-chi, his legitimate wife, should contribute to the happiness of his people, charged her with the cultivation of the silk worm and the testing of the practicability of utilizing its product. In this, the royal silk operative was eminently successful, not only raising large numbers of the worms but learning to reel the silk and make it into garments. The Empress has accordingly been deified under the title of "The Goddess of silk worms," and to this day the Chinese celebrate every year the con-con feast in her honor. This occurs at the beginning of the silk season, and the Empress of China still, after the lapse of 3,600 years, offers sacrifices to her illustrious predecessor. Immutability is a feature of the Central Flowery Kingdom.

The secrets of silk production were most jealously guarded by the Chinese, and it was a long time in reaching Europe, some holding that it was not known there until the fourth century before Christ. Of this early period the statement is that woven stuffs, made in China, were sold at such a fabulous sum that the fabric cost, ounce for ounce, its weight in gold. For a long time after the first discovery of its uses the Chinese forbade the exportation of raw silk or silk worms' eggs under penalty of death.

Nothing, however, could prevent the westward march of His Wormship. All silken fabrics were in great demand in profligate Rome, even at their then tremendous cost, but the Emperor Tiberius prohibited their being worn by men, declaring it a mark of effeminacy, and the satirists of that day inveighed against the wearing of the transparent silken tissues then produced, on the ground of indecency. In A. D. 222, the debauchee Heliogabalus scandalized his people by appearing in a garment made wholly of silk. In A. D. 273 the Emperor Aurelius refused to procure his Empress a silken robe because of the extravagant price and the bad example. Doubtless she pouted or sulked over the refusal as several millions of her sisters have since done when denied a coveted silk.

The introduction of silk worms into Japan is said to have taken place in the second half of the third century of our era. The tradition is that Corean and Chinese immigrants brought them over from the continent and first taught the Japanese their use. The silk industry, it will thus be noted, obtained a footing and spread through the island-empire contemporaneously with tea culture and Buddhism, and, like these, through the agency of Japan's nearest neighbors.

The Japanese peasantry, however, have a pretty legend that gives an altogether different account of the affair. According to it, a beautiful princess of India was placed in the hollow trunk of a mulberry tree by her cruel stepmother and sent adrift upon the sea. The gods, in compassion, caused the floating trunk, with its precious burden, to be borne by wind and wave northward to their well-beloved Japan. The princess was driven upon the coast of Hitachi, where the people of Toyo-Ura received her kindly. Here the tree took root and grew and multiplied until Hitachi was filled with mulberry groves, and upon the death of the beautiful princess, the gods, to reward the hospitality of the people, changed her body into a silk worm, and from the transformed Indian princess and her mulberry tree boat has sprung the silk industry of Japan.

In the year A. D. 552, two Persian monks who had lived in China as missionaries and had learned of the silk worm, succeeded in conveying a large number of eggs, concealed in hollow canes or "palmers," staves, to Constatinople at the peril of their lives. These were hatched and formed the nucleus of the industry there, the monks

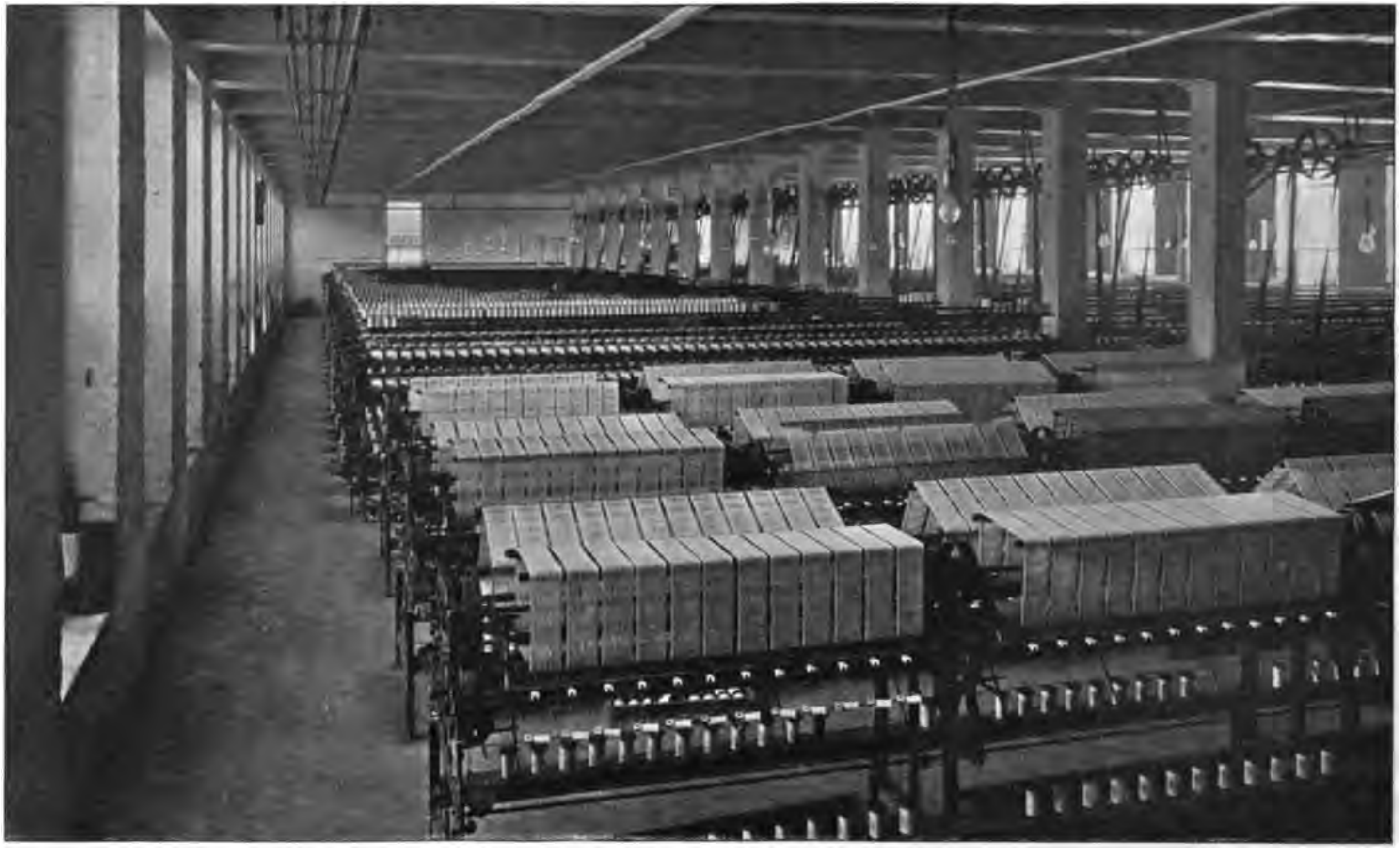

FIG. 15. Spinning and Reeling Room in a Hard Silk or Throwing Mill. (See page 27.)

revealing all that they had surreptitiously learned while in China of the care of the worm and the manipulation of the product.

Coming down to a later period we find that in A. D. 877 the rebel Chief Baichu captured Confu, the chief centre of the Chinese silk industry, put to death all its inhabitants, among them 120,000 silk manufacturers and merchants, destroyed its mulberry trees and silk worms and left the industry to grow in Western Asia and Eastern Europe, where it had become firmly established.

The silk worm made slow progress, however, in Europe. In the year 910 he made his appearance in Cordova, Spain, brought there by the Moors, and in the tenth and eleventh centuries the silk manufactures of Spain and Sicily were extensive. King Roger, first Norman King of Sicily, invaded Greece in 1146 and carried off the silk treasures of Athens, Thebus and Corinth, and took captive a large number of silk weavers and with his booty established more firmly the industry in his kingdom. From Greece and Italy the industry passed to Marseilles and in the fourteenth century it was introduced into Avignon.

Under Henry IV, Sully established a silk worm nursery in the garden of the Tuileries. Louis XIV also encouraged the industry in his time. During this time the weaving of silk fabrics with foreign threads had developed greatly. There were beginnings of the manufacture at Tours, and perhaps at Lyons, as early as the thirteenth century. It is said that the first white mulberry tree planted in France was brought by St. Aubon, a valiant knight, on his return from the Second Crusade.

The silk industry was never so developed as during the reign of Louis XIV, in whose time, it is stated, nearly 400,000 Huguenots were engaged in it. When the "Grand Monarch" turned fanatic and revoked the Edict of Nantes, these were all exiled and the industry was nearly annihilated, the 18,000 looms of Lyons being reduced to 4,000 and the 11,000 of Tours to 1,200. The mills were reduced in number from 800 to 70. Of these Huguenot refugees over 100,000 went to England and established the silk manufacture on a firm basis. This was the first recorded appearance of His Wormship in England. The refugees also carried the industry to Germany and Switzerland, and all these countries soon became formidable rivals of France in this branch, which languished there up to the close of the last century, it having just begun to recover when it was again destroyed by the Revolution of 1793.

All attempts at silk culture (the production of cocoons), in England had failed, the climate being unfavorable to the silk worm, until after the introduction of the Italian method of throwing or twisting, in 1718, through the daring enterprise of John Lombe, a mere youth. Prior to this, very little had actually been accomplished. In the time of the magnificent Henry VIII, he could scarcely obtain a pair of silk stockings for gala occasions. His daughter Elizabeth was presented with a pair of English black silk stockings as a remarkable gift.

In 1585 some silk manufacturers had come to England from Antwerp, which gave the business a slight impetus. James I encouraged the industry and some throwsters, dyers and weavers were brought from the continent and, in 1629, the "silk throwsters" of London were incorporated, the trade having its dye called "London Black." In 1661 this organization employed 40,000 men, women and children. It was in 1685 that the Huguenot exiles from France arrived and established such seats of manufacture as Spitalfields, producing silk fabrics of the best styles then known anywhere.

One great difficulty, however, the English silk manufacturers had always to contend with; they were compelled to purchase their thread, or yarn, abroad, as all the material was formed into threads and twists on the continent. In 1702 a Mr. Crotchet had attempted to start a silk throwing mill but had failed, and it remained for John Lombe, whose name is still remembered with veneration—inasmuch as he not only introduced this important feature into the country, but lost his life by so doing—to succeed in that in which so many had failed. He resolved to visit Italy and learn the processes of silk throwing at whatever cost, and this he did, starting in 1715.

He found great difficulty, however, for the Italians guarded their secret most jealously. At Piedmont, finding the silk machinery closely watched, he gained admission through the connivance of the work-people in the disguise of a common workman, making several secret visits and carefully noting down everything, even to making sketches of parts of the machinery. He was discovered before he was nearly ready to go home and was obliged to fly for his life, carrying with him his notes and sketches. He would have been assassinated had he tarried another hour. He took refuge on board a ship and escaped to England with his priceless acquisition, accompanied by two Italian workmen whom he had bribed and who risked their lives in following him.

Arriving in England, he leased an island in the river Derwent at £8 per annum and built a mill at a cost of £30,000, still standing and known as "The Old Silk Mill." While the mill was being erected the business of silk throwing was successfully inaugurated, and in 1718, Lombe received a patent for fourteen years. It was found that the thread could be produced vastly cheaper at home than imported from abroad, and as this enabled English manufacturers to compete with the French and others this was really the most important epoch in the history of the silk industry in England.

John Lombe did not live long to enjoy his prosperity, for soon

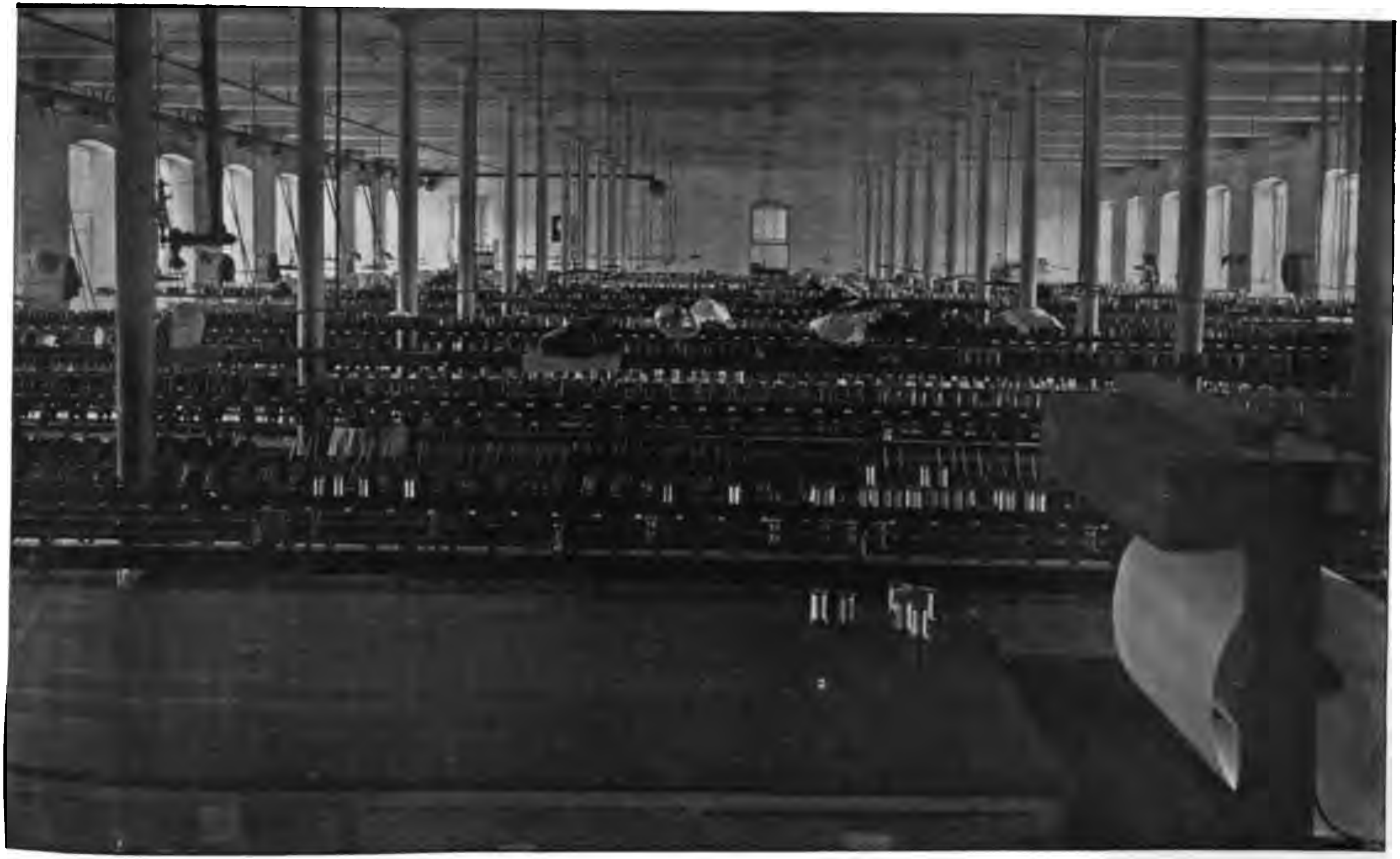

FIG. 16. A 2,400 Spindle Soft or Dyed Silk Winding Room. (See page 27.)

after his mill was fairly in operation he died, at the early age of twenty-nine, from poison administered by the two Italian workmen from whom, to a large degree, he had learned the art. The story of Lombe's fate is very curious, but well authenticated. It is to the effect that the Italians, in their own country, finding that they had been outwitted and that their lucrative trade was endangered, sent over a female poisoner to take his life, if possible. This woman entered the mill as a workwoman, endeavored to gain over her countrymen and succeeded, a slow poison being administered to Lombe that finally resulted in the death of their victim. The Italians then fled to their own country. Grand funerals were then in fashion, and the most superb known in that day was the funeral of John Lombe, who fell a victim to his ambition to introduce a new branch of manufacture for which thousands upon thousands have since had cause to bless his memory.

The patent was not renewed after fourteen years and soon the silk throwing business was followed in many parts of England. A picture of this first mill represents an immense establishment, four stories in height, one-eighth of a mile in length, and the grand machine is said to have been constructed with 23,586 wheels and 96,746 movements, which worked 73,726 yards of organzine with every revolution of the water wheel, and as it revolved three times per minute, the almost inconceivable quantity of 318,504,960 yards of organzine was turned out daily. Hutton, however, who worked for seven years in this mill, reduces the number of wheels to 13,384.

In 1860 there were 400 silk throwing mills in England, employing about 100,000 hands. Owing to various causes which need not be enumerated here, it was only by the most rigid protective measures that the silk manufactories of England were sustained, even with all the great improvements in machinery and the vast amount of capital invested; and when, in 1860, the commercial treaty of that year admitted French silks duty free, many branches of the silk manufacture of Great Britain received their death blow, reducing the silk weavers of Manchester and the Macclesfield to beggary by the thousands—a lesson in the value of protection that is not likely to be needed in this Commonwealth. These two great centers of the silk industry, formerly competed with Lyons for the American trade, but at this time the competition ceased. Only about forty years ago silk goods of all kinds imported to this country were drawn about equally from England and France; to-day, we buy no silk from Great Britain worthy of mention.

The duties on silk fabrics abrogated by the Cobden treaty were not heavy, yet they had been sufficient to prevent ruinous foreign competition. As an effect of their abrogation thousands of the looms and spindles of the great mills referred to, purchased at a merely nominal price, were brought over and set running in Paterson and other American mills. The business has, in fact, been largely transferred to this continent, whither the reader is invited to follow it.

The Spanish conquest of Mexico was the means of introducing the silk industry to this continent. We may dismiss the vexed question alluded to by Prescott as to whether the Aztecs made fabrics containing silk. Humboldt declares that the material they used was not the product of the Bombyx mori. Herrera asserts that there was no silk and Acosta, and that there were no mulberry trees in the Indies prior to their introduction from Spain. The voluminous work of Hernandez, published in 1607, gives full accounts of the plants and animals of the new world, and does not mention the silkworm or the mulberry.

In the year 1522, Cortes, as ruler of New Spain (Mexico) prepared a plan for its government; the details included the appointment of officials in charge of the silk industry, the first step toward which was the planting of mulberry trees. The record of certain legal proceedings has secured to history the date of the introduction of the silk worm into America. After Cortes withdrew from personal rule in New Spain, the authorities who were placed in charge by the King made an investigation of what had been done by the board of auditors who preceded them. This was in the year 1531. Among the items of this procedure is a statement that a quarter of an ounce of silk worm seed (eggs) was sent on public account from Spain to Francisco de Santa Cruz, a citizen of Mexico.

The seed arrived in safety and was placed by Francisco with Auditor Diego Delgadillo, who was a native of Granada, and presumably knew something of silk culture in his own country, where it was introduced by the Moors as already stated. Delgadillo made use of the eggs and the experiment was eminently successful.

This was the beginning of an industry in the culture of silk, its manufacture into woven goods, including the now popular taffetas, one of the oldest of silken weaves, which has not generally attracted the notice of modern writers on the subject. But by the end of the sixteenth century this manufacture had almost wholly ceased.

So far as silk culture is concerned, however, the industry was, after a short interval, to reappear on this continent and unfold itself in the sunshine of royal favor. This came about through the jealousy by England of France, her ancient enemy.

The industry was established in France, as heretofore stated, and made notable progress, as to both culture and manufacture. It soon excited the envy of James I, of England, and he proceeded to copy, even in details, the performance of Henry of Navarre, and selected the American colonies as the most promising field of operation. In

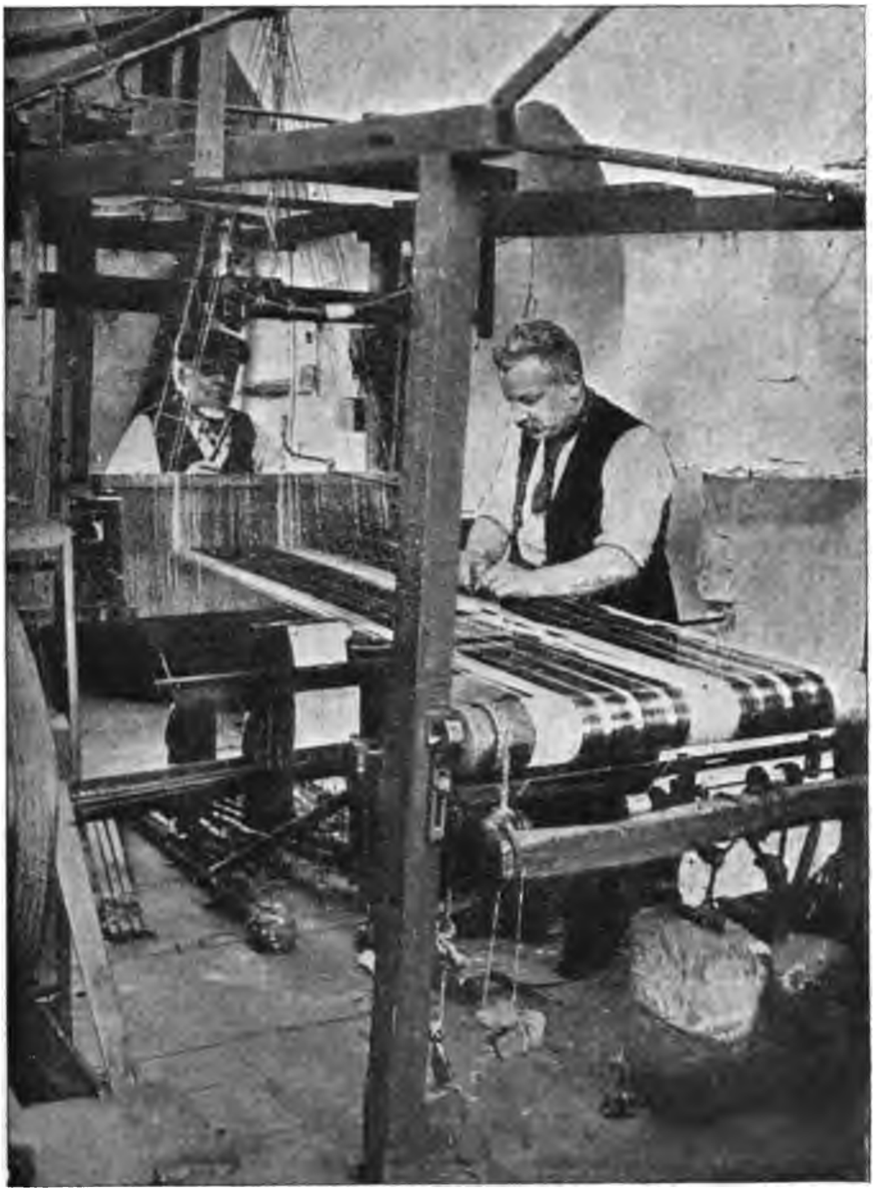

FIG. 19. Old Hand Silk Loom. (See page 31.)

fact, however, nearly a century elapsed after their introduction by the Spaniards in Mexico before silk worm eggs were again brought to this continent from Europe, and King James supplied the "seed."

The undertaking met with delay at the outset. The expedition of Sir George Summers, with a fleet of seven vessels, bound for the shores of Virginia in 1609, suffered shipwreck and disaster. Two vessels were lost entirely; the rest were driven by storm to the Bermudas. A part of the expedition ultimately reached Virginia, but brought no silkworm eggs. This was two years after the settlement of Jamestown.

For some years subsequent to this the colony was in a forlorn condition, but in 1619 great efforts were made for its relief. Silk culture appears prominently as among the means to help the people out of their poverty and the following is recorded as one of the items in a sort of invoice described as "A Note of the Shipping, Men and Provisions sent to Virginia by the treasurer and company in the yeere 1619:"

"Silke; for which that country is exceeding proper, having innumerable store of Mulberry trees of the best, and some silkworms naturally found upon them, producing excellent silke; some whereof is to be seene. For the sitting up of which commoditie his Majesty hath been graciously pleased now the second time (the former having miscarried), to bestow upon the Company plenty of silkwormes seed of his own store, being the best."

Sending out silk worm eggs from England was followed in 1622 by the most peremptory and urgent directions to encourage silk culture. Aid was promised on the one hand to colonists who entered heartily into the work, and on the other hand punishments were ordered for those who neglected the matter. In 1623 the legislature of the colony issued further orders requiring mulberry trees to be planted, the fine for neglect being twenty pounds of tobacco. The act also offered a premium of fifty pounds of tobacco for every pound of reeled silk produced.

At this point we can give what is probably the earliest quotation for raw silk in this country. It includes also the price of cocoons, here described as "coddes" and elsewhere as "bottomes." Too much stress should not be laid upon the accuracy of the record, as it was put in print nearly thirty years after the period to which it refers.

The traffic could not have been large, but there is other evidence that some silk was made, and we may, in any case, regard the quotations as "offering prices" of that date:

"From a valuation of the commodities growing and to be had in Virginia, valued in the year 1621. And since those Times improved in all more or lesse, in some 1-3, in others ½, in many double, and in some treble:

"Silke coddes, two shillings six pence the pound.

"Raw silk 13 s. 4 d. the pound, now at 25 s. and 28s. per pound.

"Silke grasse, to be used for cordage, 6 d. the pound."

This latter has reference to a fibrous plant (probably ramie) growing wild and extensively in the colony. Queen Elizabeth had a gown made from this material, described as "a substantial and rich piece of Grograine." It was hoped that by cultivation the fibre of this grass could be improved so as to equal the silk which it was said to resemble.

On his accession to the throne, in 1625, Charles I took the government of the colony in his own hands. Very little progress in silk culture seems to have been made during the reign of that unfortunate monarch. Under the Protectorate, interest in the subject was revived, and several curious tracts were written on behalf of the industry. The most noted of these essays were by ("E. W.") Edward Williams (1650). Williams regarded the production of silk as one of the wonders of nature; a mystery, which, if taught to the savages, might impress them with pious awe. A similar idea impressed itself on Samuel Hartlib, who was an enterprising merchant of London, and who has a better chance of remembrance in literature than the other silk essayists of the period, since the poet Milton dedicated to him a "Treatise on Education." The ponderous title to one of Hartlib's books is itself a curiosity:

"The Reformed Virginian Silk Worm; or, a Rare and New Discovery of a speedy way, and easie means, found out by a young Lady in England, she having made full proof thereof in May, Anno 1652. For the feeding of silk worms in the woods, on the mulberry tree leaves in Virginia, who, after forty days' time present their most rich golden-coloured silken Fleece, to the instant wonderful enriching of all the Planters there, requiring from them neither cost, labour or hindrance in any of their other employments whatsoever. And also to the good hopes that the Indians, seeing and finding that there is neither art, skill or pains in the thing, they will readily set upon it, being by the benefit thereof inabled to buy of the English (in way of Truck for their silk-bottomes) all those things that they most desire."

In his introduction, Mr. Hartlib refers to the efforts of King James to extend silk culture in England by planting mulberry trees and rearing silk worms, and then he proceeded to urge that the Indians be pressed into this service, in the hope of converting them to Christianity and making a profit at the same time. The essay overflows with pious phrases and calculations of gain, curiously intermingled.

But it does not appear that the Virginia planters were stirred to much activity in raising silk. Punishments and rewards were alike in vain. An act of the colonial assembly in 1656 imposed a fine of

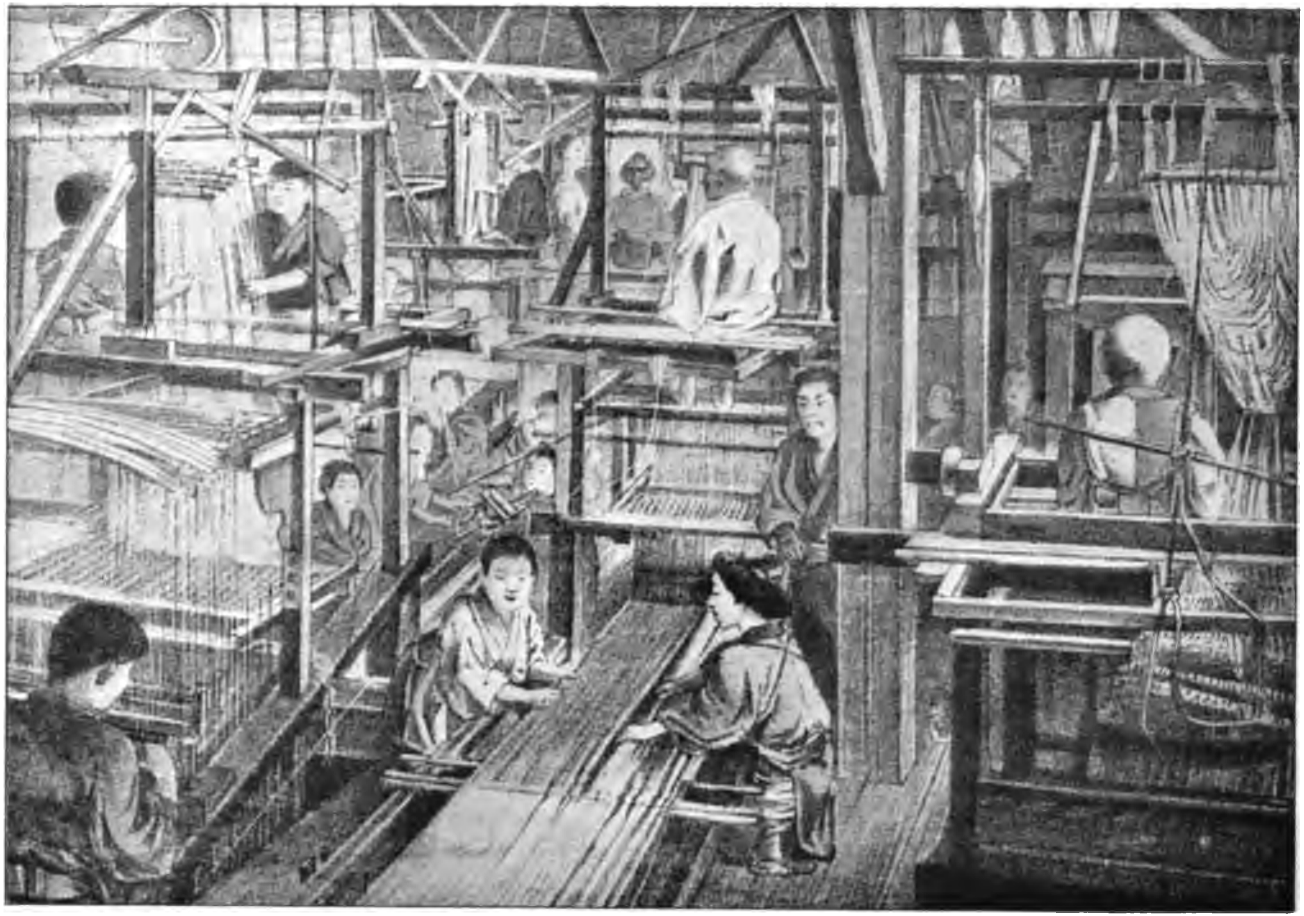

Fig. 19½. Interior View of a Japanese Weave Shop. (See page 31.)

ten pounds of tobacco on any planter who had not at least ten mulberry trees to every hundred acres. A premium of 4,000 pounds of tobacco was given as a reward for remaining in the business of silk culture in the colony. In 1657, 10,000 pounds of tobacco was offered to any one exporting £200 worth of raw silk, and 5,000 pounds of tobacco to anyone producing 1,000 pounds of "wound silk" in a year. But it is difficult to find any record of the product.

There is, indeed, a tradition, treated rather incredulously by historians, that the king, at his coronation in 1660, wore a robe and hose of Virginia silk. There are no records of any further noteworthy production of silk in Virginia, though we are told that "the mulberry tree grows there like a weed, and silk worms have been observed to thrive extremely and without hazard."

During the latter part of the seventeenth century, a large body of French Huguenots settled in the southern part of the province of Carolina. They brought with them a knowledge of various industries, and are probably to be credited with the earliest production of silk mixed fabrics in this country. At about the same period, 1693 to 1702, a vigorous, though restricted, attempt at silk culture was made by Sir Nathaniel Johnson, and the locality of this undertaking bore the name of "Silk Hope" for more than a century. It was strongly urged at this time that the colored people be taught to cultivate silk. This should be of interest to modern promoters of schemes for employing southern negroes in silk raising, since the suggestion of such service as peculiarly suitable for the colored race is thus antedated about 200 years. Joshua Gee, an eminent English publicist, made an estimate that the labor of slaves employed in raising silk would produce about twice as much value as in planting sugar or tobacco. It was also suggested that the mother country should send her paupers and "small offenders" to South Carolina; "it must be a weak Hand indeed that cannot earn bread where silk worms and white mulberry trees are so plenty," urged a writer of that date.

Far more anxiety for silk culture in the colonies was displayed in England than in America. The planters did not take serious interest in the business. A colony of Swiss who settled in South Carolina about 1733-'35, under the leadership of John Peter Purry, of Neufchatel, was successful in raising silk and cotton, and was credited with some progress in manufacture. The mulberry tree flourished in the light and sandy soil of the pine lands. The excellent quality of South Carolina silk was certified by Sir Thomas Lombe, who considered it equal in strength and beauty to that of Italy. But as to amount produced in the Carolinas, the record is that it reached but 251 pounds in the twenty-five years from 1730 to 1755.

In the last named year, Mrs. Pinckney took with her to England some silk which she had raised and spun near Charleston, and three complete dresses were made therefrom; one was presented to the princess dowager of Wales, one to Lord Chesterfield and one remained an elegant heirloom in possession of the family for more than fifty years. It is said that 630 pounds of silk were raised in 1765 at Silk Hope plantation.

Meanwhile the London Society of Arts was giving handsome bounties for cocoons and raw silk, and kept up the offer till 1772. Parliament, in 1769, granted a bounty of 25 per cent. for seven years on all raw silk imported from the colonies. But the Revolutionary War put a stop to the bounties and the silk industry of South Carolina ceased to exist. The Abbé Raynal has pronounced its funeral oration. That philosophical writer, of course, offers an ingenious theory to the effect that silk was not exported because negresses were not imported. He concludes:

"Yet the progress of this branch of trade has not been answerable to so promising a beginning. The blame has been laid on the inhabitants of the colony who, buying only negro men from whom they receive an immediate and certain profit, neglected to have women who, with their children, might have been employed in bringing up silk worms, an occupation suitable to the weakness of that sex and to the tenderest age."

Tracing the silk industry in the order of its starting at different points in this country, we find it introduced into Louisiana next after South Carolina by the notorius John Law, of "South Sea Bubble" fame. Many mulberry trees were planted in and near New Orleans. Failure to reach profitable results seems, however, to have overtaken every effort and we do not read of any considerable silk product. Favorable soil and climate and a knowledge of the business on the part of the colouists were not wanting, but legislative bounties were.

Georgia, which had been part of the "fertile Carolinas," was made by royal charter a separate province in 1732, and placed in control of a board of trustees. This event became the occasion of an urgent pressure in favor of silk culture. A colonial seal was ordered, containing, on one side, a representation of silk worms, some beginning and others having finished their webs, with the motto: Non sibi sed aliis (Not for ourselves, but for others); but it does not seem to have been meant, by the use of this motto, to suggest that the colonists, in raising silk for British manufacturers, were laboring "not for themselves but for others," though that was the fact.

Late in 1732 a man from Piedmont was sent out by the trustees to teach the colonists the art of reeling. It was an occasion of much congratulation in 1734-'35 when General Oglethorpe took with him to England eight pounds of colonial silk, and showed it to the trustees, who presented it to Queen Caroline. Under royal instructions, Sir Thomas Lombe (to whom allusion has been made on a foregoing

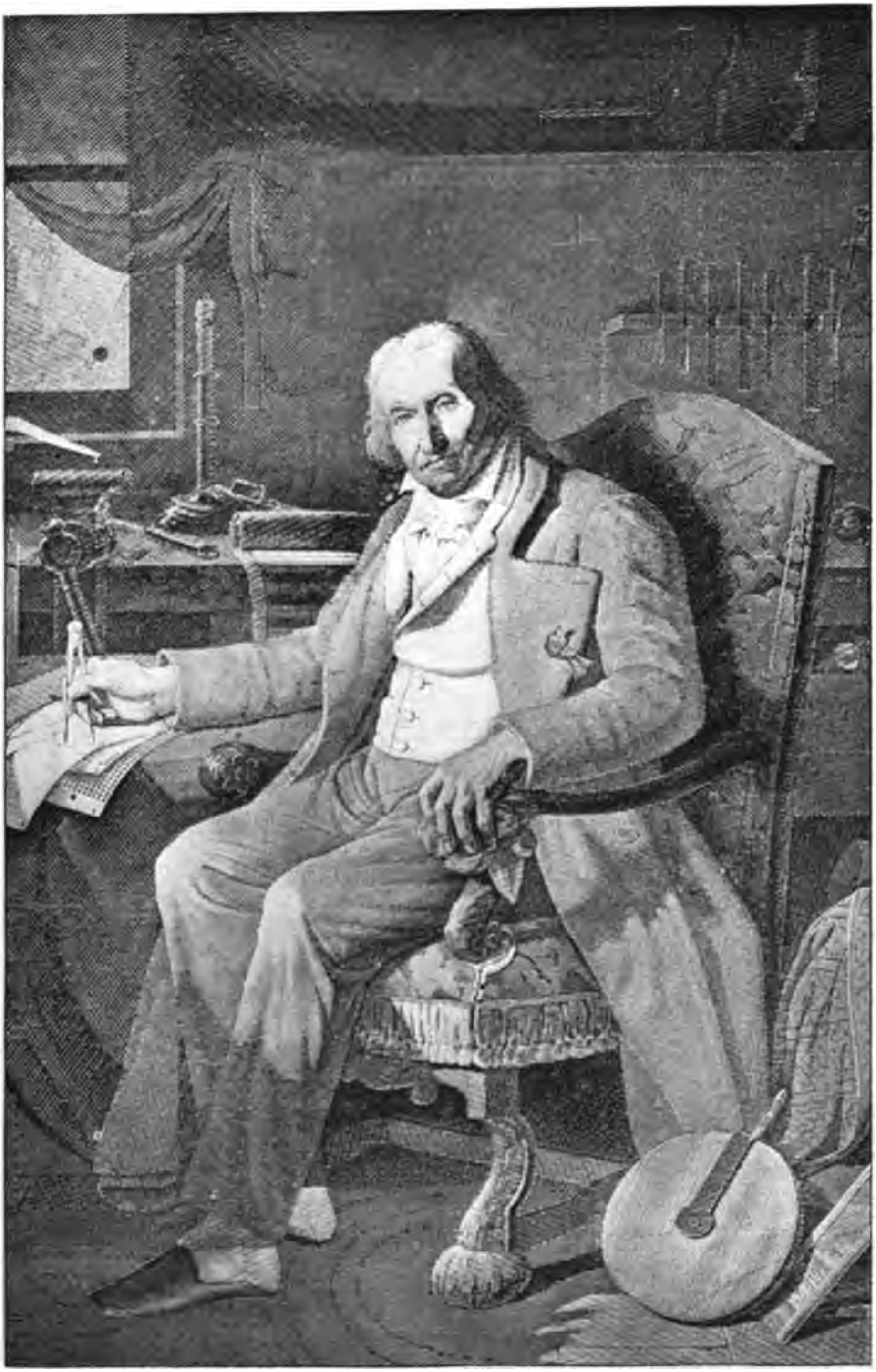

Fig. 21. J. M. JACQUARD, The Famous Inventor. (See page 33.)

page) took charge of the precious consignment, and had it thrown and woven at his factory; so that, in 1735, upon the king's birthday, the queen honored the colony by appearing at a levee in a dress said to be entirely made of Georgia silk.

Several Italians of both sexes were brought to Savannah in 1736 from Piedmont in charge of a Mr. Amatis. The foreigners were proficient in the arts of silk culture and reeling; the men were ordered to teach male English colonists to raise mulberry trees, the women to take English girls as apprentices in rearing worms and reeling from cocoons. "In Italy and in the south of France, young girls carry the eggs in their bosom, and hatch them by their natural heat. In other countries this is done by means of manure or hothouses." It is not specified which of these processes was taught to the English girls. Some of the Italians behaved badly; one of them stole the reels, broke the copper pans, spoiled all the eggs he could not steal and fled to South Carolina; but a little seed and a few faithful Piedmontese were left.

Meanwhile, a number of Protestants, driven out of their home in the valley of the Salza, Bavaria, had emigrated to Georgia and founded a town, which they called Ebenezer, about twenty-five miles above Savannah, near to, but not quite on the river. They brought with them several useful arts and soon accomplished more in the business of raising silk, with far less fuss, than their neighbors at Savannah. There were notices at this period of a scheme for interesting the Chickasaw Indians in the work of silk culture. English writers were again urging attention to the business. Even the muse was invoked to stir the lagging colonists, and a poem, on the return of General Oglethorpe to Georgia, in 1736, winds up:

"Nor less the care
Of thy young province to oblige the fair;
Here tend the silk worm in the verdant shade
The frugal matron and the blooming maid."

But as to the export of raw silk, it was admitted in 1740 that "no great entries have been seen of any yet in the custom house;" in fact, the colony of Georgia was at this time in a very weak and impoverished condition, and scarcely able to produce enough of the necessaries of life for its own sustenance. In 1744 but few bounties were offered for silk; a filature was built at Savannah, and the implements for reeling were ordered to be furnished. Bounties were also offered in 1749 for proficiency in the art of reeling, and the trustees supplied the requisite apparatus to competitors. In the following year fourteen young women claimed the bounty and were given permanent employment at the filature, which, by this time, had an outfit of tools and implements.

We are now approaching the period when silk culture in the colonies attained its highest development. An exaggerated notion of the results has been formed by several of the writers who have recorded them. This is chiefly due to neglect in discriminating between cocoons and raw silk. The records from 1757 to 1768 are mostly of the production of cocoons; and of these articles, when fresh or not specially dried, ten or twelve to fourteen pounds are required to furnish one pound of reeled or raw silk.

An assertion has frequently found place and comment in histories and essays, that, in the year 1759, 10,000 pounds of raw silk were exported from Georgia to England. This arose in an ambiguous, not to say erroneous, publication from Carleston, South Carolina, which Adam Anderson has fortunately quoted in full. He says:

"We had public Advices in this year 1759 from Charles-Town, in South Carolina, of a very hopeful Prospect in that Province of the gradual and considerable Progress and Increase of the Production of Raw-Silk there and in the adjoining Province of Georgia, viz: In the year 1757, 1,052 Pound weight of Raw-Silk Balls were received at the Filature in Georgia; and the next year produced no less than 7,040 Pound weight thereof. And that in this year, 1759, there has been received at Savannah, the Capital of Georgia, considerably above 10,000 Pound weight of Raw-Silk, although the Season has not been favorable."

It will be seen that the foregoing treats of production, not of export, and, therefore, presumably, of cocoons, not of reeled silk. At all events, the facts were so understood by Rev. Jared Eliot, of Killingworth, Connecticut (grandson of John Eliot, the "apostle of the North American Indians"), writing in the very year when the advices were received. His version is as follows:

"By a late account from Georgia, it appears that the Silk Manufactory is in a flourishing way. In the year 1757, the Weight of Silk Balls received at the Filature was only 1,052, last year produced 7,040 and this Year already above 10,000, and it is very remarkable that the Raw Silk exported from Georgia sells at London from two to three shillings a Pound more than that from any other Part of the World."

This seems quite correct, except in calling the business a "silk manufactory."

The policy of raising silk by means of bounties was pushed to its extreme in 1751, when the trustees of Georgia established the following scale of premiums, which has certainly never been surpassed:

For first quality cocoons, 2 s. per pound; if delivered at filature, 3 s. 6. d.

For second quality cocoons, 1 s. 3 d. per pound; if delivered at filature, 1 s. 8 d.

For third quality cocoons, 6 d. per pound; if delivered at filature, 1 s. 1 d.

This was at least two or three times what the cocoons were worth,

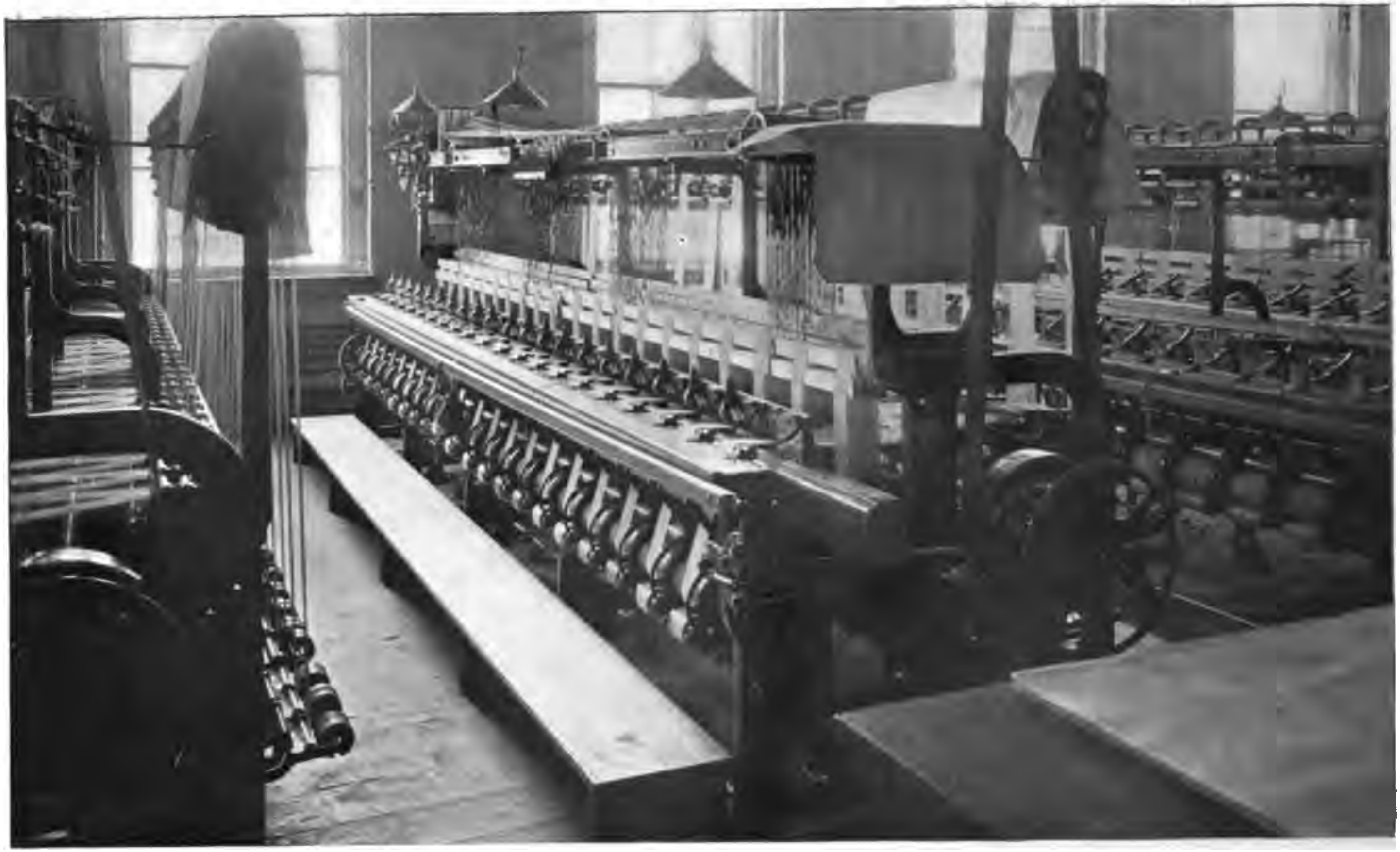

FIG. 24. A Ribbon Loom. (See page 34.)

and is "truly astonishing." The patent of the trustees expired in 1752, and with it all the chartered privileges of the colony, which then became a royal province, directly dependent upon the crown for government. Acts of parliament of almost equal liberality soon replaced the measures of the trustees for spurring the silk industry. These acts were various, and the encouragement they gave was fluctuating. One of them, in 1749, admitted raw silk from the American plantations free of duty, and provided that Georgia and South Carolina should thereafter "have the honor of being denominated Silk Colonies." In the same vain of sweetness, George II, June 21, 1754, directed a silver seal to be made for Georgia, bearing on one side a figure representing the genius of the colony offering a skein of silk to the king with the motto: "Hinc laudem sperate coloni."

The silk product rose while the bounties for delivery at Savannah were most liberal, but sank with marvelous rapidity shortly after their reduction, falling to 290 pounds in 1770. Throughout the entire period of silk culture in Georgia the Saltzburghers of Ebenezer were among the largest producers, and were almost the only ones in the years immediately preceding the War of the Revolution, who prepared raw silk for export. During the war the French settlers at New Bordeaux, seventy miles above Augusta, are said to have supplied "much of the high country" with sewing silk made from cocoons of their own raising. The industry ceased, however, to attract attention; the last parcel of raw silk offered for sale in Georgia during the century being in the year 1790, when over two hundred-weight was purchased for export at prices ranging from 18 to 26 shillings per pound.

The silk growing industry in Connecticut dates from 1732, and it soon made considerable progress. The first coat and stockings made of New England silk were worn by Gov. Law, in 1747; the first silk dress by his daughter, in 1750. Dr. Ezra Stiles, president of Yale College, raised silk worms and had his professor's gown made from the fruits of his industry in 1758. Orchards of mulberry trees were planted at New Haven and Mansfield, about 1760, laying the foundations of an industry in the latter town that lasted three-quarters of a century and paved the way for the present silk manufacture of that and other sections.

Nothing further of importance is recorded of the industry in the state, for the period prior to the Revolution, during which silk history in the whole country was almost a blank. In 1789 there came a revival throughout Connecticut and silk growing and home manufacture thrived until in the early years of the century it was recorded that fully three-fourths of the families in Mansfield were occupied therein. In 1810 the first out-and-out silk mill in America, erected especially for the silk manufacture, was built at Mansfield, Conn., by Rodney and Horatio Hanks. This was 12x12 feet in extent and is still standing.

About 1832 an important silk industry was established by Samuel Whitmarsh, at Northampton, Mass., and it was here that John Ryle, the "Father of the American Silk Industry," was first employed upon his arrival in this country in 1839. This year saw the collapse of the wonderful craze known as the Morus Multicaulis fever, which had had a phenomenal run in all sections of the country for about thirteen years. But this will be treated of later in its proper connection.

Samuel Whitmarsh, Mr. Ryle's employer, was deep into the prevailing madness. He was a manufacturer only, or mainly, to fabricate specimens of silk stuff so far as they would promote the introduction of Multicaulis Cuttings. "I shall make $25,000 by next winter" remarked Mr. Whitmarsh to Mr. Ryle in April 1839. Before the winter came the end had arrived and Mr. Whitmarsh had neither cash nor credit enough to buy a barrel of flour. When Mr. Ryle came to this country, though he had been working in his father's silk mill at Ballington, a suburb of Macclesfield, Eng., since he was a bare-footed boy of five years, going to his work at 5 a. m., summer and winter, he had never so much as seen a silk worm and he was greatly anxious to see one. A very little later there were thousands of people all over this country who wished they had never seen a member of the Bombyx family and devoutly hoped they would never see a worm or a mulburry tree again.

In the spring of 1840 John Ryle, "backed" by George W. Murray, an octegenarian New Yorker of some means, purchased a small plant of crude silk machinery, lying in disuse and covered with dust and rust on the top floor of the old "Gun Mill," at Paterson, N. J., and then and there was started the first enterprise in the way of domestic silk manufacture that was destined to live. Everything that had been done prior to this, in the prosecution of the silk manufacture proper, had been of an experimental character and ephemeral existence; some few were manufacturing braids, threads, trimmings and a few other articles in various parts of the country, but all did not amount to anything of importance. The industry planted by John Ryle still exists, after the lapse of nearly sixty years, and is being conducted by the "Pioneer Silk Company" (which is not a misnomer), at Paterson and at Allentown, this State, extensive mills being operated in both places.

Chris. Colt, who had brought the machinery from Connecticut and placed it in the "Gun Mill," where the "Colt Patent Arms Co." first carried on the manufacture of the now famous Colt repeating arms, had accomplished nothing; John Ryle made a success of the enterprise from the start and soon purchased his partner's interest and,

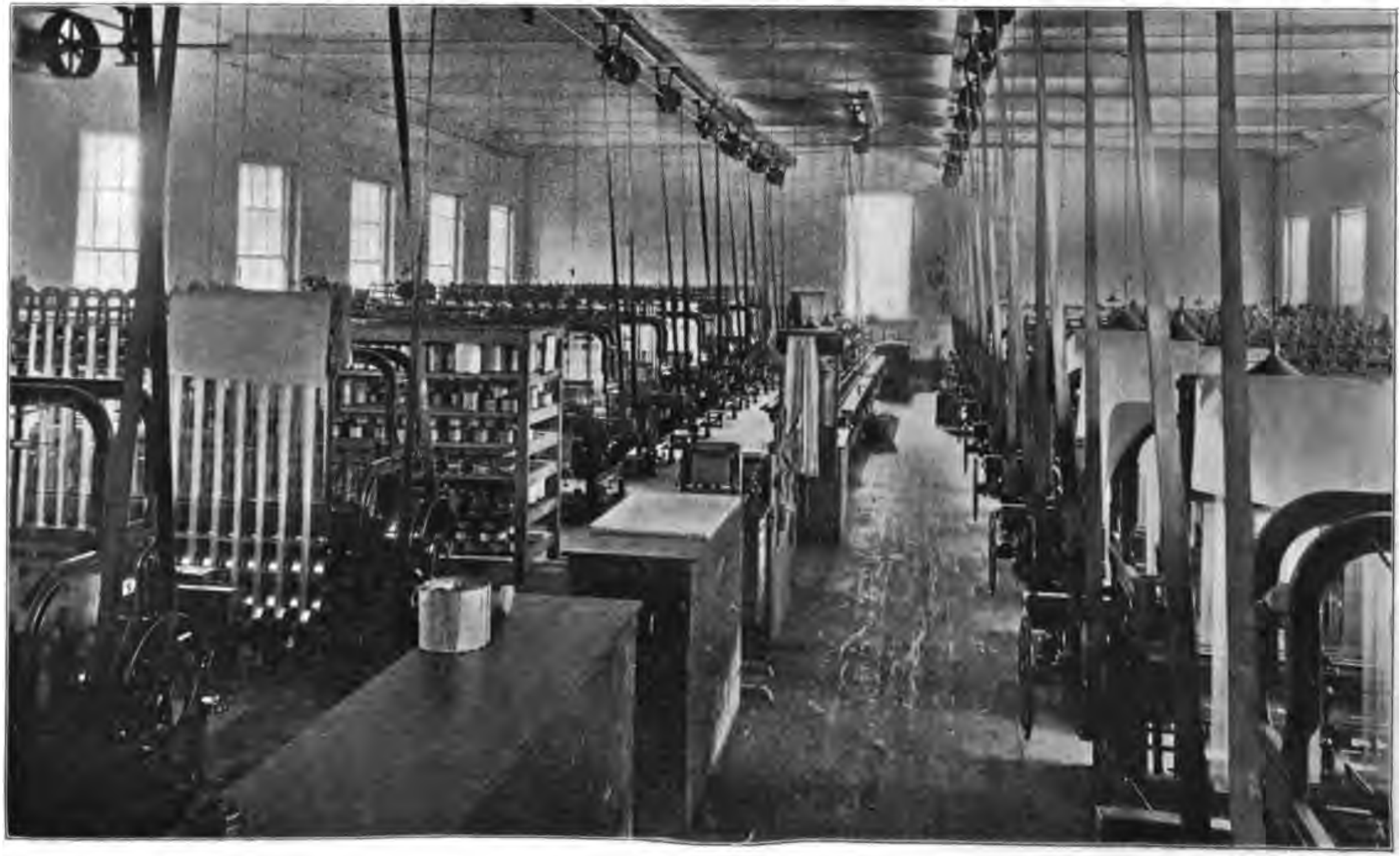

FIG. 25. Ribbon Weave Room. (See page 34.)

later, the Gun Mill property. As serving to show the low estate of the American silk industry in the earlier years, it is worthy of note that Mr. Ryle on one occasion went to New York to purchase raw material and could find but half a bale in the market. The other half had been sold, to go to Philadelphia, and after Mr. Ryle secured his half the market was bare.

At first, the Ryle product was sewings, handkerchiefs, "cravats," etc., but in 1846 looms were put in and weaving of dress silks was begun on a considerable scale. In 1854, Mr. Ryle built the "Murray Mill," 200x75 feet, three stories, by far the greatest silk mill ever erected in this country up to that date.

In 1855 the firm of Hamil & Booth entered the field, the second pioneer silk enterprise in Paterson, that still exists. During the succeeding years the industry in Paterson grew steadily, with now and again a period of partial stagnation intervening until there are now about one hundred and fifty establishments in the "Silk City," together with many important dyeing and finishing works and other industries adjunct to the silk manufacture proper.

In the meantime the industry has made rapid strides in other places also, Hudson County, Jersey City, Hackensack and other New Jersey towns; South Manchester, Rockville, Watertown and New London, Conn.; Northampton, Florence, Holyoke and Canton, Mass.; San Francisco, Cal., and Belding, Mich., being among the chief centers of manufacture, exclusive of the Commonwealth of Pennsylvania, whose silk history is reserved for a chapter by itself.

The total number of silk manufacturing establishments in the United States at this date is estimated by Secretary Franklin Allen, of the Silk Association of America, to be 861, located in 228 towns of 19 states. New Jersey stands first, with 257; New York next, with 228, and Pennsylvania third, with 172 establishments. Next come Connecticut with 66, Massachusetts with 59, Rhode Island with 26; none of the other states possessing any considerable number. Pennsylvania, according to Secretary Allen, has 34 broad silk plants, 19 ribbon plants, 2 thread manufacturers, 31 commission throwsters, 11 custom dye shops and 75 establishments engaged on other lines, such as tapestry and drapery silks, silk hosiery, underwear, trimmings, laces, etc.

It must be understood, however, in accepting this statement of the number of silk establishments in the United States that many of the smaller ones not infrequently eliminate silk almost entirely from their product.

Following will show the strength of the domestic industries, as indicated by the number of establishments, number of hands employed, total product, etc., at the beginning of each decade from and including 1850 to the present date:

Years.	Establishments.	Number of hands employed.	Total wages per annum.	Capital.	Value of product per annum.
1850.*	67	1.723	$297,416	$678,300	$1,909,476
1860.*	139	5,435	1,050,224	2,926,980	6,607,771
1870.*	86	6,649	1,942,286	6,231,130	12,210,662
1880.*	382	34,521	9,146,705	19,125,300	34,519,723
1890.†	524	50,913	19,680,318	51,007,537	69,154,599
1899.‡	861	93,600	36,500,000	105,000,000	125,000,000

*Wyckoff's "Silk Manufacture in the United States," 1880.
†Rose & Trumbull Co.'s "American Silk Industry," 1893.
‡Partly estimated, there having been no complete census taken since 1890.

No explanation is given by Mr. Wyckoff, the Secretary of the Silk Association of America, for the falling off in the number of establishments from 139, in 1860, to 86, in 1870, while every other item shows a steady advance of the industry. It will be observed that the growth was very marked between 1850 and 1860, that between 1870 and 1880 it was quite phenomenal and that, if the (partly estimated) figures for the beginning of 1899 are even approximately correct, the Queen Industry has grown to about double its proportions in 1890, within the past nine years.

Appended are some additional figures that will prove interesting and illustrative of the advance made in the supply of the American market with silks from domestic looms:

IMPORTS OF RAW SILK.

(From reports of the Bureau of Statistics, Treasury Department.)

Years.	Pounds.	Value.
1850, ...	*120,010	$401,385
1860, ...	*297,877	1,340,676
1870, ...	583.589	3,017,958
1880, ...	2,562,236	12,024,699
1890, ...	5,943,360	23,285,099
1898, ...	9,979,482	28,234,650

*Estimated from current prices, only the value being on record.

Last, but not least, may be mentioned the ascendancy in volume of domestic silk fabrics over imported goods, achieved by our home industry. The percentages of silk goods made in the United States,

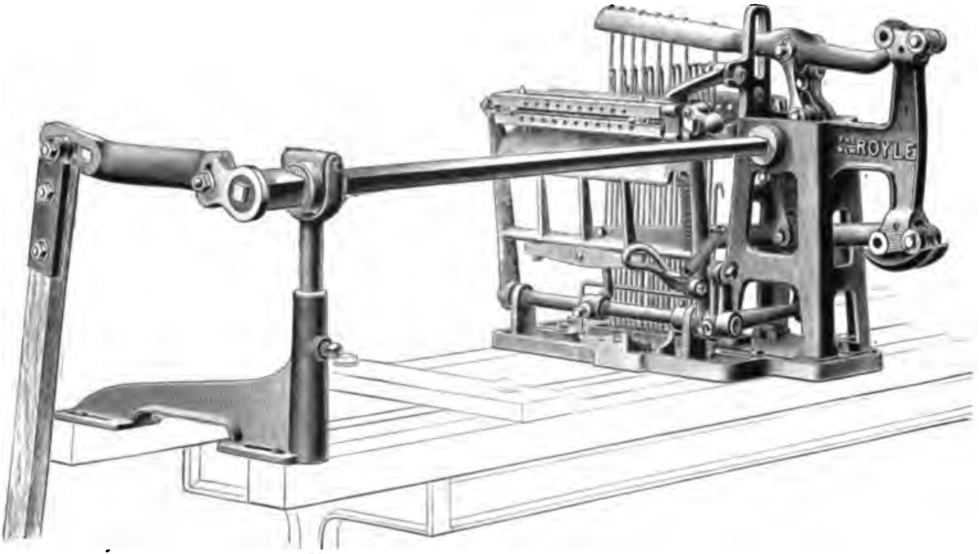

Figure 23. A Dobby. (See Page 33.)

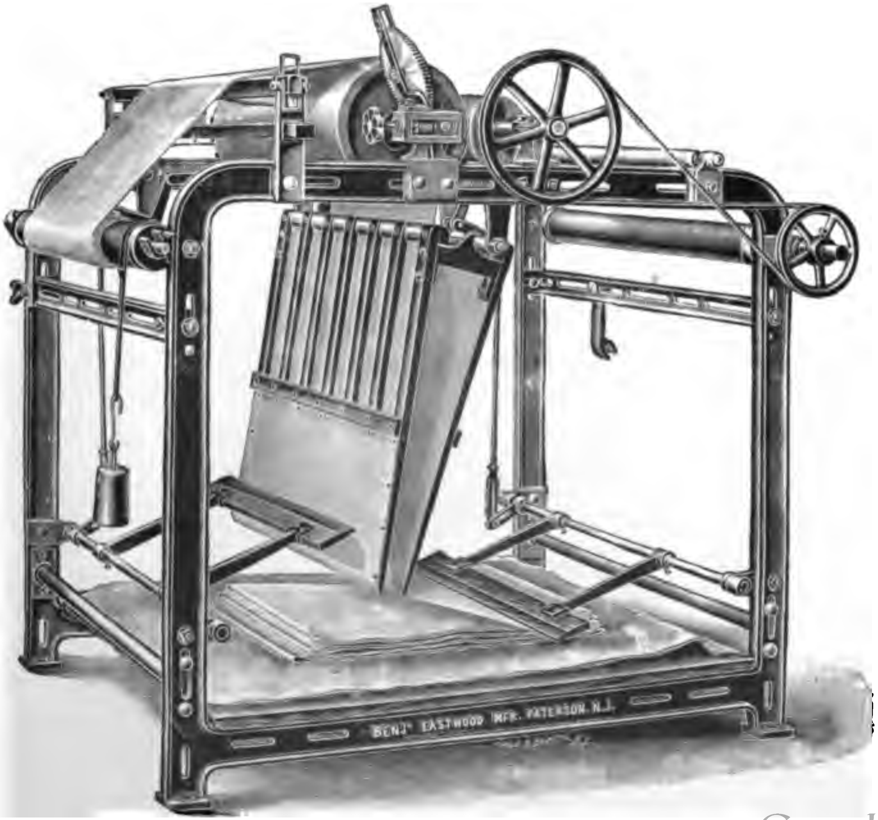

Figure 26. Measuring and Folding Machine. (See Page 35.)

as compared with the whole consumption of such goods in the country for the past (nearly) four decades, are as follows:

1860,	13 per cent.
1870,	23 per cent.
1880,	38 per cent.
1890,	55 per cent.
1898,	80 to 85 per cent.

It will be seen from above that within thirty-eight years this country has increased its volume of silk production until the "tables have been turned," so to write, for in lieu of importing all but 13 per cent. of the silk goods consumed by our people, it is now producing all but about 13 per cent. of the total home consumption, the imports at present consisting mainly of the extremely rich and costly fabrics from the hand looms of Lyons, Crufeld and Zurich.

About the only thing we have to fear is the Orient, where Japan and China, since the "open door" policy is extending, are rapidly adopting the use of the most modern machinery, appliances and methods, which, added to the cheap labor of those countries, may make them dangerous rivals in the near future.

It is interesting to note the advance in the home silk industry, as illustrated by our consumption of raw material from Japan, our chief source of supply, and we may remark, in this connection, that our takings from Italy, China and other silk-producing countries has been in nearly or quite the same ratio.

But we will take the Japanese export as the strongest illustration of our growth. The total export of silk from Japan in the two decades, 1878 to 1898, which amounted to 718,266 bales, we find that Europe took 361,116 bales and America 357,150 bales, a difference, for the whole period, of but 3,966 bales in favor of Europe. But this preponderance was all gained in the earlier years of the period. In 1889-90, America forged ahead of all Europe in her consumption of Japanese raw and widened the distance steadily until the recorded imports of last year (1898) show that our consumption of the "noble fibre" from Japan nearly doubled that of Europe, the exact figures being: America, 37,019 bales; Europe, 19,734 bales. These figures were recently given in the Tokohoma Gazette, and should be thoroughly reliable. They, taken together with other data, prove that *America is to-day the greatest silk manufacturing country in the world*, judged by its volume of production.

In addition to the preceding details, the dates of starting the silk manufacture in various localities may be briefly stated as follows:

1815. Philadelphia, Pa., trimmings, etc.
1829. Baltimore, Md., ribbons.
1834. Boston, Mass., dress trimmings,

1834-1838. Florence, Mass., sewing silk.
1835. Dedham, Mass., sewing silk.
1838. South Manchester, Conn., general silk manufacture.
1838. Windsor Lock, Conn., sewing silk.
1840. Paterson, N. J., general silk manufacture.
1840. Canton, Mass., sewing silk.
1842. Newark, N. J., sewing silk.
1843. Philadelphia, Pa., sewing silk.
1848. Skinnerville, afterward moved to Holyoke, Mass., sewing silk.
1849. Watertown, Conn., sewing silk.
1852. Philadelphia, Pa., ribbons.
1863. Rockville, Conn., sewing silk.
1865. Trenton, N. J., coach lace.
1865. New York, N. Y., general silk manufacture.
1866. Willimantic, Conn., sewing silk.
1866. Oneida, N. Y., sewing silk.
1868. Hoboken, N. J., silk dress goods.
1870. San Francisco, Cal., sewing silk and fringe silk.
1871. Brooklyn, N. Y., silk laces.
1872. College Point, N. Y., ribbons.
1874. Wortendyke, N. J., silk handkerchiefs and dress goods.
1875. Town of Union, N. J., silk dress goods.
1881. Allentown. Pa., broad silks.

THE SILK INDUSTRY IN PENNSYLVANIA.

Pennsylvania, now ranking third in order among the silk manufacturing states—judged by the number of establishments engaged in the industry—and which is so rapidly forging ahead that it is safe to predict that it will soon lead them all, is found to have been engaged in seri-culture at a very early date in her history, having been preceded in it only by Virginia, the Carolinas and Louisiana, all the other silk growing colonies following, most of them many years later.

It was recommended by James Logan to the Penn family, in 1725, as "extremely beneficial and promising;" the next year he mentioned that silk from the colony had been sent to England; he "is glad it proves so good."* A bill had been introduced in 1719 into Parliament to restrain the increase of woolen and other manufactures in

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*"Annals of Philadelphia" by John F. Watson. Philadelphia, 1830.

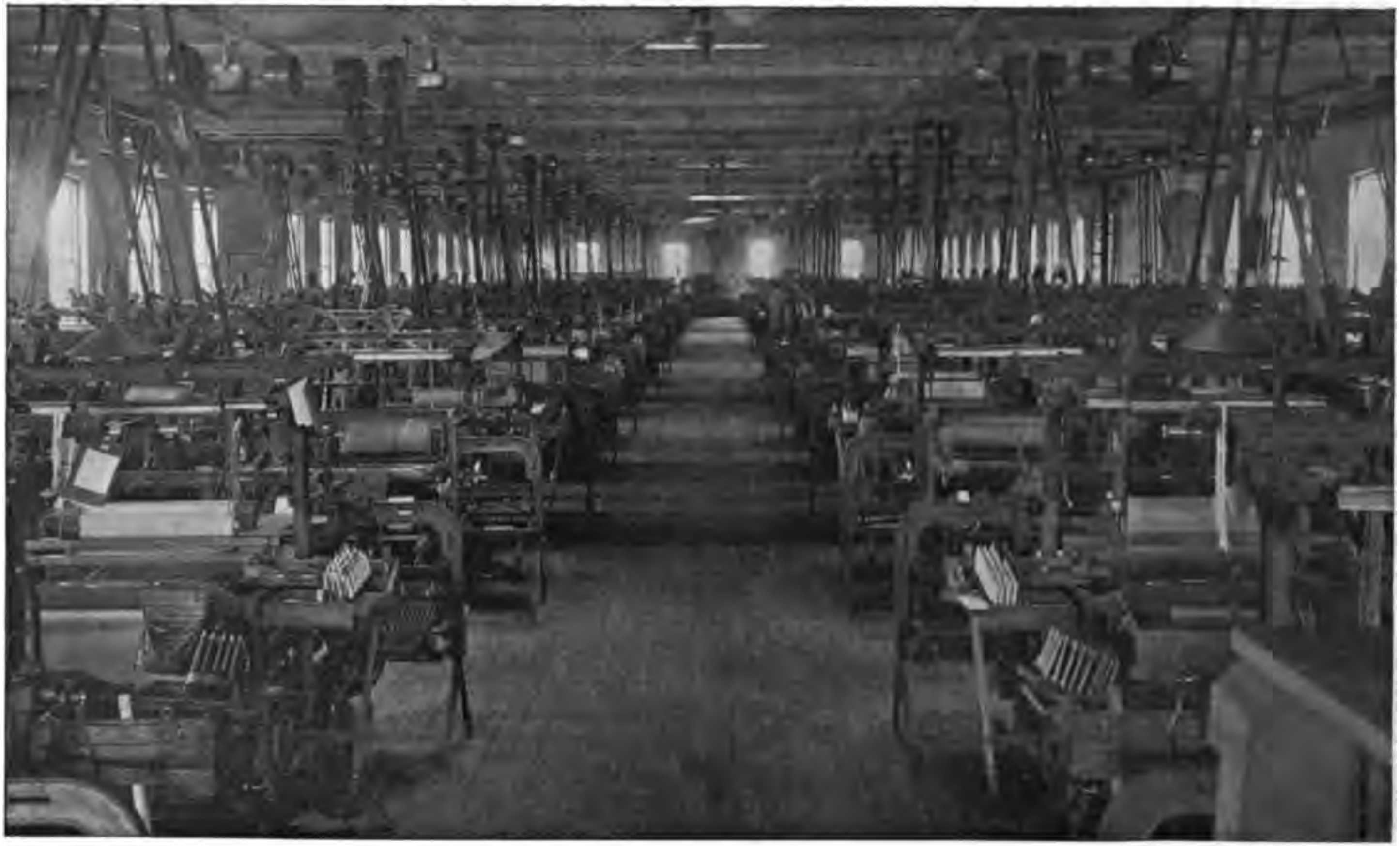

FIG. 27. A Modern Weave Shop, Broad Silk Looms. (See page 35.)

the colonies.† A more definite application of the non sibi sed aliis principle was urged a few years later, based on a complaint that the colonists were engaged in textile manufacturing, especially in the provinces north of Virginia. The British Board of Commissioners on Trade and Plantations made an elaborate report on this subject to Parliament in 1732. They say:

"It were to be wished that some Expedient might be fallen upon to divert their thoughts from Undertakings of this Nature; So much the rather, because those Manufactures in Process of Time may be carried on in a greater Degree, unless an early Stop be put to their Progress, by employing them in Naval Stores."

The conclusion arrived at is as follows:

"We would humbly beg Leave to report and submit to the Wisdom of this honourable House, the Substance of what we formerly proposed in our Report on the Silk, Linen and Woolen Manufactures hereinbefore recited, namely, whether it might not be deemed expedient to give those Colonies proper Encouragements for turning their Industry to such Manufactures and Products as might be of Service to Great Britain, and more particularly to the Production of all kinds of Naval Stores."

Ultimately, it seems to have been considered that the encouragement of silk culture was one of the "expedients" for preventing manufacture. The commissioners addressed a letter, in 1734, to the deputy governor of Pennsylvania, Patrick Gordon, asking him what encouragement should be given in order to "engage the colonists to apply their industry to the cultivation of naval stores of all kinds, and, likewise, of such other products as may be proper for the soil of the said colonies, and do not interfere with the trade or produce of Great Britain." To this Governor Gordon replies that it was the whole study of the merchants how to make returns for the large importations of British manufactures. He recommends, among other things, that the culture of silk be encouraged, and mentions that small quantities had already been produced in the colony, equal to the best European.

A London paper of February 7, 1765, states that within four days one hundred journeymen silk throwsters had engaged passage to New York and Pennsylvania, under extraordinary encouragements, intending at both places to establish the manufacture of silk. Perhaps the "encouragements" arose partly out of reports concerning efforts which were begun about this time by Dr. Benjamin Franklin.

Several hundred pounds sterling were paid to Pennsylvania and other American colonists between 1755 and 1772, for premiums on silk and mulberry trees, by the London Society for the Encouragement of Arts, Manufactures and Commerce. A pamphlet published by the society mentions that in 1761 the following corresponding members were authorized to pay premiums in their respective colonies: Dr. Jared Eliot, the Rev. T. Clap (president of Yale College), and Jared Ingersoll, of Connecticut; Benjamin Franklin, LL. D., and John Hughes, of Pennsylvania; George Pollock, Cullen Pollock and John Rutherford, of North Carolina; M. Ortolengi (superintendent of the filature at Savannah), of Georgia.

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†Anderson's "Origin of Commerce."

The bounties paid in other colonies by the society were probably the same as those announced at that date for Georgia, viz, for first quality cocoons, 3 d. per pound; for second quality, 2 d., and for third quality, 1 d. per pound.

About the year 1766, Dr. Nathaniel Aspinwall, of Mansfield, Conn., who had a nursery of white mulberry trees on Long Island, and who was a person of large public spirit and enthusiasm in respect to silk culture, gave a number of such trees to be planted near Philadelphia. An act giving bounty for planting the tree had been recently passed by the legislature of New Jersey, and considerable interest was manifested in the subject by other neighboring colonies.

The American Philosophical Society of Philadelphia, of which Dr. Franklin was a leading member, gave much consideration to plans for silk culture in 1768 and 1769. Early in 1770, Dr. Franklin, who was then in London, wrote a letter to the society, urging these projects and enclosing his correspondence with Dr. Cadwallader Evans, of Philadelphia, upon the subject. This seems to have determined the society's course; they took prompt steps for establishing a filature. A subscription for the purpose was started, and, during the first year the sum of £875 14 s. was obtained.

Measures were taken to procure supplies of mulberry trees and silk worm eggs, and Dr. Franklin, who was always ready to contribute good advice, sent a copy of a useful work by Abbé Sauvage. An application was made to the assembly to authorize "a public filature," the managers to have power to grant premiums equal to about £500 per annum for five years.

The filature was actually opened in June, 1770. It was situated in Seventh street, between Arch and High streets. About 2,300 pounds of cocoons were brought thither in 1771; of this amount, 1,754 pounds were bought by the managers; two-thirds of the cocoons had been raised in New Jersey. There is room for doubt as to the disposal of the products. It is more than hinted that all the silk made was absorbed in garments for members of the society. J. d'Homergue, who was a competent witness, though perhaps not wholly disinterested, says:

"I have not heard of any raw silk having been prepared at this filature, or sold out of it, yet I have been told that a lady of this city (Philadelphia) had a negligee dress manufactured in England out of silk of her own raising."

A considerable number of successful attempts at silk culture were made at this time in Pennsylvania, several of which have passed into history. Susannah Wright, of Columbia, Lancaster county, a Quaker lady of some literary celebrity, reeled and wove from home grown cocoons a piece of "mantua" sixty yards in length. A dress was made from this fabric for Queen Charlotte, and for a second time the wife of a Britsh sovereign honored the colonies by appearing at court in American silk.

It is further recorded that Susannah Wright had 1,500 worms in 1772, "and could have raised large quantities if encouraged;" she also made sewing silk. Another Quaker lady, Grace Fisher, who was a noted preacher, made some silk fabrics which were presented by Governor Dickinson to Mrs. Catharine Macauley, the historian. There are several instances about this time of Pennsylvania ladies raising the material for their own clothing, and at least one of a bride thus providing her own wedding garment; but, it is significantly added, "the best dresses worn with us were woven in England."

The following letter from George Washington shows how active in the work were the women of the last century:

"Philadelphia, July 29, 1794.

"Madame: Not before the 8th inst. had I the honor to receive your favor of the 17th of May, accompanied with a piece of silk of your manufacture. Contrary as it is to an established maxim of mine not to accept a present from anyone, yet, considering this as a mark of your peculiar attention to me, and as an evidence of what our climate, aided by industry, is capable of yielding, I receive and thank you for this evidence of your skill. I shall have it made up, and will wear it as a memento of your politeness, having the honor to be,

"Your most humble and obliged honorable servant,

"GEORGE WASHINGTON."

Many writers have lamented the complete interruption which the Revolutionary War caused to the silk enterprises. In fact, however, the war made the real industry practicable. Silk culture here, to supply manufacturers abroad was precisely the reverse of a profitable arrangement for this country. "If, when we plough, sow, reap, gather and thresh we find that we plough, sow, reap, gather and thresh for others, why should we repeat the unprofitable toil?" Legislation to stop manufacturing in America was now the order of the day in England. An act of Parliament, 3 Geo. II, c. 29, sec. 9, passed in 1750, provided that:

"From and after the 24th day of June, 1750, no Mill or other Engine for slitting or rolling of bar Iron, or any plaiting Forge to work with a Tilt-hammer, or any furnace for making of Steel shall be erected or, after erection, continued in any of his Majesty's colonies in America."

Act 14 Geo. III, c. 71, was passed in 1774, "To prevent the exportation to foreign parts of utensils made use of in cotton, linen, woolen and silk manufactures of this kingdom." The statute imposed a fine of £200 for transgression; such machinery could be seized and confiscated, its holder anywhere was liable to arrest, and even the ship that carried it and the owners of the vessels were reached by the stringent penalties of that law.

The United Society for Promoting American Manufactures (Philadelphia) recommended, in 1776, an appropriation of £40 for the encouragement of John Marshall, who had constructed some novel machinery for throwing and twisting silk. The invention was at once too early and too late. The arts of peace were suspended, and the people were preparing for war.

Silk history in this country is almost a blank during the struggle for independence, and for several years afterwards its records are very faint.

The great demand and high price of breadstuffs, owing to the wars growing out of the French revolution, rendered the cultivation of grain so profitable for many years that the mulberry was neglected.

Subsequent revivals of interest in culture and manufacture seemed unimportant at the outset. But small as were these beginnings, they proved more permanent (because they obtained a home market) than all the carefully nursed silk culture for export which had been attempted since the country was settled. The manufacture of sewing silk gave new life to an industry that had sickened and died when fed on royal favor and parliamentary bounty.

It may here be mentioned, however, that at the period of the Revolution and for at least fifty years afterward, the making of sewing silk in this country was chiefly a household art rather than an organized business carried on in a mill or factory. This was the bridge between the silk culture of the colonies and the full-fledged manufacture of the present century; a bridge of essential service, though a chasm yawned at its farther end where many fortunes were engulfed.

The methods of reeling from the cocoon and of making sewing silk were of the most primitive kind. The reeled silk was called "tow," and it looked like that material, being coarse, of irregular thickness of fibre and almost wholly wanting in lustre. By a laborious hand process this was converted into sewing silk of fair quality, but only half the amount in weight could thus be successfully manipulated; the rest was a knotted, irregular refuse, barely available in making homespun garments.

The sewing silk, or "twist," had a low reputation as compared with that imported from Italy. It was put up in small parcels, called "sticks," containing a definite number of yards. Twenty-five skeins were tied in a bunch, and four bunches were fastened together; this gave a merchantable package of 100 skeins—a unit of trade that was used in barter and took the place of currency. Very little money was used at that time in the State, and the sewing silk became the "circulating medium." An act of legislature defined the length of the skein, and was enforced by penalty, as follows:

Any person or persons who shall offer for sale any sewing silk, unless each skein consists of twenty threads, each thread of the length of two yards, shall forfeit the sum of seven dollars to any person who shall prosecute the same to effect.

Naturally enough, when the medium of trade had thus acquired an artificial value, it became the interest of each producer of this currency to debase it. This was effected in two ways: by making the thread as fine as possible, so as to get the greatest length out of a given weight of material, and by putting only half the length in a skein and calling it a "half skein."

The object of the latter device was to give an opportunity, as the silk went from hand to hand, of passing half skeins as whole ones. The chance of this immoral advantage made the half skeins the more popular currency.

An improvement in the spinning wheel was patented in the year 1800 by Horace Hanks; it was known as the "double wheel head." This gave the spindle an increased speed of 145 turns to one as compared with the old-fashioned machinery.

The making of fringes, coach laces and tassels at Philadelphia began in the year 1793. It was expanded in 1815 to include silk trimmings, naval sashes, ribbons, braids, etc., of various kinds, by Wm. H. Horstman, who came to this country from Cassel, Germany, in that year and settled in Philadelphia, where his decendents still continue the business then founded. Mr. Horstmann had learned the art in France and was the inventor of much silk machinery. He was the first to introduce the Jacquard attachment, in 1824. In 1837 his son, William J., designed and built power looms and introduced their use in weaving ribbons and other narrow goods.

There is a record of fresh exertions by Mr. Aspinwall, in 1790, to extend the planting of the mulberry in Pennsylvania, New York and New Jersey, but the insuperable difficulty during all this period arose from the bad reeling of domestic silk. No power-driven machinery that has ever been devised is capable of making a good, uniform thread from such reeled silk as was then produced in the households of the silk growers, although, as has been stated, a fair sewing silk could be extracted from it by hand work, with great loss of raw material. The bad reeling which was customary seems more remarkable since several excellent kinds of hand reels, with a traverse, had been constructed by inventors of that day. Success at last attended the efforts put forth and with good reeling "the native silk was found to be of superior quality and strength, winding and doubling with greater facility and less waste than China or Broussa silk." The comparative cost is not stated.

In December, 1825, the subject of silk culture began to receive national attention, being brought before Congress by a resolution of inquiry introduced by Mr. Miner, of Pennsylvania, and referred to the Committee on Agriculture. During the following spring the committee reported favorably, presenting, among other arguments on the subject, a statement that "the value of silk goods imported in 1825 was nearly twice as great as the export of breadstuffs." The report included a resolution directing the Secretary of the Treasury to cause to be prepared a well-digested manual on the growth and manufacture of silk.

Inquiries for information upon the subject were sent out by the secretary, Richard Rush, in 1826, and from the replies and other material, a manual was constructed, entitled "Letter from the Secretary of the Treasury." dated February 7, 1828. Six thousand copies were printed by order of Congress. This manual became known as the "Rush Letter;" it contains 220 pages, besides illustrations of machinery, and is a carefully executed work. Other documents relating to silk culture were received and published by Congress at this time.

A report presented to the House in 1830 by the Committee on Agriculture, included two interesting letters from Peter S. Du Ponceau, LL. D., who accompanied Baron Steuben to this country in 1777, and afterward rose to eminence at Philadelphia in public affairs and in studies of philology and law. Essays on American silk by John d'Homergue also formed part of the report. The essays and letters contain much useful information, largely drawn from the experience of their authors in raising silk. The report proposed a grant to M. d'Homergue of $40,000 for the establishment of a Normal School of Filature at Philadelphia, to supply gratuitous instruction to sixty young men for two years in the details of reeling, dyeing and manufacturing silk.

M. d'Homergue was to be authorized meantime to travel through the different states and teach the art to farmers and others. A bill containing these propositions was brought to a vote in 1832 and was defeated by a small majority. The subject was again referred to the Committee on Agriculture, which, in 1835, made an adverse report, on constitutional grounds.

In the following year the matter was referred to the Committee on Manufactures, which reported in 1837. This last report, which was very elaborate, declared that the "silk bill" was defeated because the "ingenuity and experience of our countrymen now render it un necessary, believing, as they do, that the recent improvements in reeling will do more in a few weeks than the establishment of many normal schools on the old plan will do in many years." The committee recommend that all public lands in the United States be leased gratuitously wherever the cultivation of the mulberry and the sugar beet were undertaken thereon.

During the pendency of the bill in 1830, Mr. Du Ponceau started a small filature of ten reels and twenty operatives on his own account, under M. d'Homergue's direction, at Philadelphia. Among the first fruits of his labor were two flags of American silk; these were presented respectively to the legislature of Pennsylvania and to the United States House of Representatives. About sixty pounds of the silk prepared at this filature was submitted to different manufacturers, who reported upon it as of excellent quality.

The subject of silk culture gained the public ear, and the legislatures of several states passed bills for the encouragement of the new industry. The tendency during the years immediately preceding 1837 was towards venturous enterprises, and silk culture presented an attractive field. A peculiar variety of the mulberry tree, believed to possess many advantages as compared with the white mulberry (Morus alba) was brought to public notice, and a speculation was started of such rapid and extensive growth that in a few years it overshadowed all other silk enterprises and changed the whole course of the industry.

Gideon B. Smith, of Baltimore, claimed to have owned the first Morus multicaulis tree in the United States it was planted in 1826. Dr. Felix Pascalis, of New York (afterwards editor of a publication called The Silk Culturist), called attention to the supposed merits of this plant in The American Journal of Science, July, 1830, and described its introduction into Europe by Samuel Perrottet, of the Linnaean Society of Paris. Dr. Pascalis predicted that by its culture two crops of silk could be raised in a season; the prediction was soon afterward apparently verified.

The tree was said to grow with marvelous rapidity, developing large, thin, tender and succulent leaves, in profusion. It could be propagated easily by cuttings; it could be cultivated as a shrub; its leaves formed the choicest and most nutritious food for silk worms, etc. All the agricultural literature in the country soon became suffused with descriptions of this wonderful tree. In 1831 the Massachusetts Legislature ordered the preparation of a manual on silk culture. The work was performed by Jonathan H. Cobb and the manual passed through at least four editions, and spread the new gospel of Morus multicaulis throughout all the states.

This was the beginning of a veritable madness, a craze that carried people of all classes off their feet. Nothing approaching it was ever known in any country save only in Holland, where the "tulipomania" had rose to its full development some two hundred years before. Not only agriculturists, but grave doctors of divinity, law and medicine, scholars, tradesmen and mechanics, men and women, old and young, were infected with an insane passion to raise mulberry trees. The future of these people was a glorious mirage, a radiant and irridescent phantasmagoria, every vision of which was to be abundantly realized. Everybody was to become suddenly rich; every woman in the land was to possess a dozen silk dresses at the very least. Dr. Pascalis was most jealous in promulgating the wonderful gospel, and opened the "Pandoras box" to countless victims.

The list of stock companies formed for raising and manufacturing silk at this time is very long; their lives were very short. Many of them were slenderly equipped in both knowledge and resources. Six were formed in Pennsylvania and nearly as many in neighboring states and a few in the west. A United States Silk Society was organized at the national convention, held in Baltimore, in 1838. The number of private individuals engaged in silk raising cannot be estimated. In some sections, says a writer of the day, "you can scarcely go into a house but you find the inmates engaged in feeding worms."

The literature of the period on this subject was abundant and various. In the following list, the titles of some of the more noted publications are presented:

Authors—James Mease, M. D., of Philadelphia, "Letter to Secretary Rush;" U. S. Twentieth Congress, House Doc. 158; John Clarke, "Treatise on the Mulberry and Silk Worm," Philadelphia; Peter S. Du Ponceau and John d'Homergue, Philadelphia; Gideon B. Smith (Ed. American Farmer), Manual, Baltimore; also Ed. "Journal of the American Silk Society and Rural Economist," 2 vols., Baltimore, 1840; "American Silk Grower and Farmers' Manual," Philadelphia; Dr. Felix Pascalis, "Instructions for Silk Worm Nurseries, and Culture of the Mulberry Tree."

This literature is, in one respect, peculiar. Its errors lie all in a single direction. The silk production in past years is often overstated; the probable yield from trees, eggs and cocoons is often overestimated; plentiful profits are calculated, but the mistake of understating is nowhere made.

Gradually, but at an increased rate of velocity, the tide of speculation rose. Large as were the anticipated profits of producing silk, they were insignificant as compared with the fortunes to be made by raising the new mulberry tree. Orchards of it were planted in every state in the Union. The demand raised the value abroad, so that trees which had been worth 8 to 12½ cents each in France could not be bought there on a remittance of less than 18 to 30 cents.

In December, 1838, sales were made in this country at $1.00 per tree, but the owners withdrew most of the lot, being dissatisfied with the prices obtained. Trees of a single season's growth were sometimes sold at $5.00 each. A belief in the profit of silk culture was, of course, the basis of the demand for the tree, and a table was published showing that in the actual experience of fourteen people an average of $1,000 per acre had been obtained, at $4.00 per pound of silk. But the value of the trees became greater than that of the silk which they could, by any possibility, be the means of producing.

One farmer who planted $1,000 worth of Morus multicaulis in 1838 on three-quarters of an acre, sold the trees next year for $6,000. The sales in a single week in Pennsylvania exceeded $300,000, and in many cases the same trees were sold two or three times at advancing prices. In other instances the proceeds of fifteen acres were $32,500; of two acres, $4,000; of ten acres, $38,000. The exact procedure at one of these sales is given as follows:

"Annexed is a correct statement of the number, prices and proceeds of the Morus multicaulis, sold September 18, 1839, at auction, at the Highfield Cocoonery, Germantown, Pennsylvania. The trees were sold as they stood in the ground; those under twelve inches to be rejected. Owing to a thin soil and close planting, the sizes of the trees were generally small and the branches few; the average height, according to an estimate made on the ground, being about two and one-half feet. The purchasers were mostly from a distance, the largest portion being from Illinois, Missouri and other western states. Two hundred and sixty thousand trees were sold at prices ranging from 17 to 37½ cents per tree, averaging 31 23-100 cents per tree, or 12½ cents per foot in length of stalk. The total sale was $81,218.75."

The discovery was made that cuttings with eyes or buds were sufficient for planting an orchard; the "American Silk Grower" announced:

"On Friday last, the steamboat Alabama took up to Baltimore 22,000 mulberry switches (Morus multicaulis) from six to eight feet in length; the value of which, at the lowest calculation, based upon actual sales all through the country, cannot be less than $45,000. The number of eyes or buds on these 22,000 switches is ascertained by carefully counting them, to be 2,254,000, which, according to prevailing prices, would be considered cheap at 2 to 2½ cents apiece. The whole were raised on fifteen acres of such land as would be considered well sold at $10 an acre in ordinary situations."

The bubble burst in 1839, after a continuance of thirteen years. Silk culturists, manufacturers and others had everywhere been swept into the rising current. As for the tree speculators, it is related that one, who had been among the most successful, sent an agent to France with $80,000 to buy trees and cuttings in the winter of 1838-9, with result as follows:

"Before the whole of his purchase had arrived the crisis had come. The nurserymen had failed for so large a sum that he could never reckon up his indebtedness, and the next spring his multicaulis trees were offered in vain to the neighboring farmer at $1.00 a hundred for pea brush."

People were angry and vociferous over their losses and pulled up most of their mulberry orchards in a rage. In every village, numerous gardens and outlots might be seen planted with multicaulis; later, these trees had become a worthless incumbrance, and in many instances were rooted out and thrown away.

For a few years after the collapse of the multicaulis some interest was taken in the hardier Morus alba, or white mulberry. Two trees of one season's growth raised by Elder Sharpe, of North Windham, Conn., were sold standing in his nursery in August, 1842, at auction, for $106 and $100. Further sales were withheld because the bidding was not considered sufficiently spirited. In 1844, a blight of a general character, to which even the hardy white mulberry yielded, gave the finishing blow, and silk culture in America practically ceased to exist.

The exceptions have included the spasmodic attempts at seri-culture made in intervening years at San Diego, Cal., in various parts of Kansas, in several of the southern states and, most notable of all, by the Woman's Silk Culture Association of the United States, at Philadelphia, the utter collapse of which enterprise, after nineteen years of noble effort, has recently been announced. The work of the association deserves something more than a mere passing notice.

The Women's Association began its work in 1880, at Philadelphia, with the hope of being able to provide for the women of the country an interesting and instructive as well as a remunerative source of employment, easily made accessible to the thousands of small householders and needy people of the country districts, who are cut off from the labor channels of cities and the liberal patronage of the rich. To these people, it was believed, the cottage culture of silk as an auxiliary to their slender incomes would answer a long-felt want.

At the start the association received almost a boom; the first meeting was largely attended and the board of officers included many women prominent in philanthropic work; Mrs. John Lucas was the president. The first efforts of the Association were to open schools of instruction, one at No. 1328 Chestnut street, and another in the building of the Permanent Exhibition Company, at the Centennial grounds. Two classes only were formed for the first crop. Trees and cuttings in large quantities and many ounces of eggs were distributed in nearly a score of states.

With the second year came the first fruits of the Association, and cocoons were received from these states, and upon reeling these

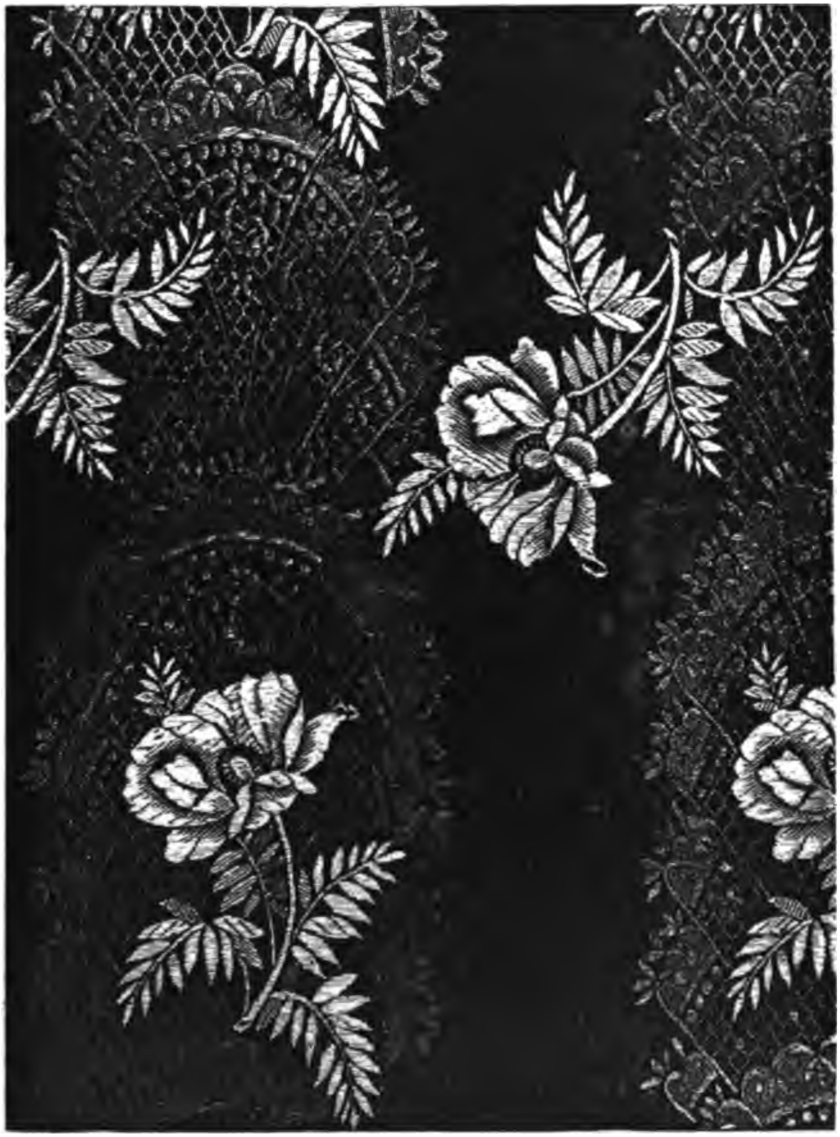

Figure 28. Mrs. Garfield Dress Pattern. (See Page 63.)

cocoons it was proved that American-raised silk was equal if not superior to the best classic silk of Italy. It was during this year that silk was collected from fourteen states and was woven into a dress pattern and presented to Mrs. Lucretia Garfield, widow of President James A. Garfield. Thus it was proved that nearly every part of the United States is adapted to silk culture. See Figure 28.

The first real trouble of the Association came with the third year of its existence. Owing to the removal of the Permanent Exhibition Building in the park, the main school of instruction was transferred to the building used by the German Government during the Centennial Exposition. Heavy expenses were incurred in fitting up the property, and to this was added one night a very material loss. A robbery of a large number of silk worm eggs and worms in the process of feeding almost depopulated the cocoonery.

The California Legislature appropriated $7,500 for fostering silk culture in that state, and the Association petitioned the Legislature of Pennsylvania for $5,000 per annum for five years to carry on the work in this State, but the request was denied.

At the spring session of Congress of 1884, the National Government was appealed to for aid, and during the following year flags of American silk were presented to the Senate and House of Representatives of the United States and both branches of the State Legislatures of Florida and Pennsylvania.

The following year brought the first aid from the Government, the establishing of an experimental station in Philadelphia and the appointment of Mrs. John Lucas, president of the Women's Silk Culture Association, as its superintendent. This gave Mrs. Lucas the direction of the expenditure of $2,500 per annum and a salary of $1,200. The latter she donated to the Women's Association, and greatly relieved the depleted condition of its treasury.

It was not, however, until the early part of 1886, when the National Government came to the rescue with an appropriation of $5,000, that the Association was on a firm financial basis. The work of the Association progressed more encouragingly as a result of the new incentive, and for the first time the women were able to show a premium silk culture.

Sericultural instruction progressed during 1887, and in September of that year an exceedingly creditable display had been prepared for the industrial parade of the Constitutional Centennial Celebration, in Philadelphia. Much had been expected from this exhibit, in the way of making public the work of the Association, but fate again dealt a crushing blow at a time of prosperity. While the float was waiting on Norris street for its turn to fall in the line of procession, some unknown person either carelessly or maliciously threw a lighted match upon the plush canopy, which took fire and burned rapidly.

While several persons were extinguishing the fire, vandals and thieves looted the float, carrying away several hundred dollars' worth of plush, silk, reeled silk and cocoons, and the opportunity of proving their work was again denied the women.

The scarcity of mulberry trees—the food of the silk worm—occasioned no little diffiulty to the silk culturists, and Congress was constantly appealed to for these trees. The planting of mulberry and Osage orange trees was urged by the Women's Association, and in one year, 1888, it distributed nearly 10,000 trees throughout the silk-producing districts.

Congress failed to pass an annual appropriation of $5,000 in 1890 and the downfall of American silk culture began at this time. The withdrawing of financial support at a time when success was almost in view completely shattered the enthusiasm of the workers and dealt a blow to the industry from which it never recovered.

Meanwhile, step by step, improvements had been effected in the manufacture of silk goods. As early as 1828, Toerhoven Bros., of Philadelphia, had invented a machine for reeling, doubling and twisting at once. Similar inventions by others had a similar object—to reel silk and to make sewing thread by one operation. But success did not lie in this direction. Improvements in the machinery for winding, doubling and spinning were introduced about 1838 and proved of permanent value. One of the most important of these is the "friction roller." This device avoids the unequal twist in the thread, which otherwise arises from the increase of diameter as the wound silk accumulates upon a bobbin.

It is interesting to the people of this Commonwealth to note the large share that Pennsylvania has had in the steady growth of the domestic silk industry. As already shown, this State now stands third in importance, judged by the number of its silk manufacturing establishments; but there are other ways in which to illustrate the advancement made within the years that have elapsed since 1860, at which date the first fairly reliable statistical data was collected and formulated.

It should be understood, however, that the figures that follow, which are for the five chief silk manufacturing states, are not the result of the work of this Bureau, but are taken from the various United States census reports, which were formulated in each census year by different statisticians, pursuing each his own method, leading, in some instances, to apparently conflicting results. They are at least approximately correct, and, while they are not of equal value to the carefully prepared and thoroughly accurate statistics of this Bureau, will yet serve the purpose for which they are presented; in fact, there is no other data in existence covering the greater part of the period in question;

SILK MANUFACTURE IN FIVE STATES—1860.

States.	Number of establishments.	Number of hands employed.	Total wages paid.	Number of broad and narrow goods looms, both hand and power.	Capital employed.	Value of material consumed.	Net value of product.
New Jersey,	9	716	$111,432	....	$207,600	$631,725	$969,700
New York,	44	1,159	268,624	....	323,980	644,911	1,154,294
Pennsylvania,	35	1,559	308,780	....	1,010,700	927,943	1,767,845
Connecticut,	22	1,137	158,760	....	997,900	821,807	1,301,400
Massachusetts,	20	781	191,720	....	330,700	814,910	1,297,050

SILK MANUFACTURE IN FIVE STATES—1870.

States.	Number of establishments.	Number of hands employed.	Total wages paid.	Number of broad and narrow goods looms, both hand and power.	Capital employed.	Value of material consumed.	Net value of product.
New Jersey,	28	2,790	$625,816	496	$2,166,500	$2,678,161	$3,998,964
New York,	14	739	262,345	216	800,500	1,211,385	1,826,073
Pennsylvania,	10	936	326,400	467	1,429,000	919,024	1,632,900
Connecticut,	23	1,703	569,425	255	1,414,130	2,049,834	3,314,845
Massachusetts,	9	453	154,300	5	412,000	937,000	1,402,500

SILK MANUFACTURE IN FIVE STATES—1880.

States.	Number of establishments.	Number of hands employed.	Total wages paid.	Number of broad and narrow goods looms, both hand and power.	Capital employed.	Value of material consumed.	Net value of product.
New Jersey,	106	13,331	$4,177,745	4,553	$6,952,325	$8,664,835	$12,851,045
New York,	151	10,484	2,590,025	2,086	4,696,775	4,333,485	9,368,025
Pennsylvania,	49	3,360	678,120	828	1,379,900	1,207,795	2,853,165
Connecticut,	28	3,766	1,026,530	615	4,436,500	3,025,325	5,438,075
Massachusetts,	22	2,068	521,725	241	1,306,900	1,730,470	3,491,093

SILK MANUFACTURE IN FIVE STATES—1890.

States.	Number of establishments.	Number of hands employed.	Total wages paid.	Number of broad and narrow goods looms, both hand and power.	Capital employed.	Value of material consumed.	Net value of product.
New Jersey, ...	132	17,517	$7,176,180	11,714	$19,035,241	$17,875,430	$30,760,371
New York, ...	185	13,151	5,584,399	4,940	16,668,455	10,141,079	19,417,796
Pennsylvania, ...	66	9,522	2,981,334	3,589	10,844,294	12,084,900	*19,357,546
Connecticut, ...	35	5,081	2,006,804	1,378	9,265,883	6,198,476	9,788,951
Massachusetts, ...	20	3,216	1,296,399	540	3,659,838	3,251,023	5,557,569

*This is the gross value, but in the Census Report for 1890, we find: "The gross production of Pennsylvania, amounting to $19,357,546, is much nearer the total value of its silk manufactures than the sum of $11,404,223, the value of its completed goods, because a large portion of the thrown silk produced in that State is not made into goods there, but goes elsewhere for manufacture."

As good a statistician as William C. Wyckoff, secretary of the Silk Association of America, for several years, including 1880, in his report for that year (in which he also presents the statistics for 1860 and 1870) places Pennsylvania second to New York only in the number of its establishments, and first in the number of hands employed, in the amount paid in wages, in capital employed, in the value of material consumed and in the value of its product.

This will be seen by a glance at the foregoing figures for that year; also, it will be seen that the statistics for 1870 and 1880, by the same author, as well as those of 1890 by Special Census Agent Byron Rose, do not confirm the showing for 1860, which is manifestly an error. The Eleventh Census report (1890), however, shows that at the date of its publication the silk industry of this State had attained third place in the number of establishments and in all other respects save only in that value of material manipulated (in the throwing branch mainly), in which it stood second, while in value of product New York held second place with a difference of but $60,250.

The Twelfth Census will doubtless show an enormous gain of the silk industry in Pennsylvania over all other silk states, the growth within the past few years having been something quite phenomenal, and it is gratifying to note that there are no signs of its abatement. Of the new mills that have been established of late, many more have come to Pennsylvania than to all the other states combined, the attractions being liberal treatment in the matter of taxation and financial aid in building, an ample supply of intelligent labor, from a sober, thrifty, industrious class that are unequalled anywhere; also, freedom from constant labor agitation, strike influences, the advantage of cheap fuel and many other things that, taken together, are making the Keystone State a veritable industrial "Mecca," toward which all eyes are turning and all steps are tending of those whose aim is to prosecute the business of silk fabrication under the most favorable economic conditions.

That these conditions are being fully recognized is shown by the remarkable record of the past two years, during which period new silk enterprises have been established in upward of 30 Pennsylvania towns and villages, while of a total of 51 new enterprises started in the United States in 1898, Pennsylvania leads with 18, New Jersey coming next with 16, and New York third, with a gain of 8.

Included in the total number (upward of fifty) towns in the State boasting of silk establishments of more or less importance, are Allentown, Alburtis, Altoona, Avoca, Bethlehem, Bath, Bloomsburg, Carlisle, Catasauqua, Columbia, Carbondale, Darby, Danville, Easton, Emaus, Ephrata, Eden, East Greenville, Fleetwood, Freeland, Harrisburg, Hawley, Honesdale, Hanover, Hallstead, Lancaster, Lehighton, Marietta, Mauch Chunk, New Holland, Newberry, Philadelphia, Plymouth, Pottstown, Pottsville, Reading, Rockledge, Scranton, Sunbury, Stroudsburg, Taylor, Titusville, Williamsport, Weatherly, Wilkes-Barre.

Of the total number of 2,340 looms installed in 1898 to equip the 51 new mills, Pennsylvania comes to the front with 1,255, more than half the total number; New York stands next with 510; New Jersey reports 415; Connecticut, 157.

The number of spindles placed in the new throwing mills exceeds 53,000, and Pennsylvania, which is especially strong in this branch, again leads with 37,000, the remainder being divided up between New York (1,800), New Jersey (7,300), Rhode Island and Connecticut.

According to the recent report of Secretary Franklin Allen, of the Silk Association of America, there were in this country, at the beginning of 1899, a total of 27,000 power looms for broad silk weaving and 6,000 power looms for ribbon weaving. In 1890, according to the census returns, there were 14,866 and 4,389, respectively.

A brief review of the various duties on silk, raw and manufactured, from 1790 to the present date will not be devoid of interest in view of the vital importance of protection to this beyond almost any other industry. By the tariff act of 1790, a duty of 7½ per cent. ad valorem was imposed on importations of manufactured silks; by the tariff of 1792, the duty was increased to 10 per cent.; in 1797 it was increased to 12½ per cent.; in 1804, to 15 per cent.; in 1812, to 30 per cent. This was at the time of the war with Great Britain. In 1824 the duty was reduced to 20 per cent. A duty of 15 per cent. was imposed on raw silk in 1823, which, until then had been free.

The sectional excitement of the south against the north resulted, in 1832, in a reduction of the duty on silk manufactures, from this side the Cape of Good Hope to 5 per cent.; from beyond the Cape, 10 per cent. By the same act a duty of 40 per cent. was levied on sewing and 12½ per cent. on raw silk. The duty on all silks, except sewings, manufactured this side the Cape was abolished by Mr. Clay's Compromise Act of 1833, raw silk remaining dutiable at 12½ per cent. There were further provisions of this act looking to a gradual reduction of all duties on foreign imports, which reduced, in time, the duties on sewings to 26 per cent.

By the act of September 11, 1841, the duty on manufactured silk was placed at 20 per cent. In 1842 the duty on silk manufactures was increased to 30 per cent. Raw silk was placed at 50 cents per pound. In 1846, raw silk again was made subject to a duty of 15 per cent., and in 1861, under the "Morill tariff," was made free.* In the year 1857 the duty on manufactured silk was fixed at 24 per cent.; in March, 1861, it was advanced to 30 per cent., in August, of the same year to 40 per cent., and in June, 1861, to 60 per cent. By act of February, 1875, all silk goods containing over 75 per cent. in value of silk were made subject to a duty of 60 per cent.

In 1883, the duty on silk manufactures of a general character was reduced to 50 per cent. This was the year of the Tariff Commission, before which body appeared a delegation of leading silk manufacturers representing that they would be content with a revision downward of 10 per cent. if the duties were made specific, so far as possible. This was because of the serious undervaluation of imports under the ad valorem system, which made it impossible to know, even approximately, what measure of protection was being given. The manufacturers were taken at their word as to the reduction, but ad valorem duties were adhered to in the act.

Under the "McKinley tariff" of 1890, the duty on manufactures of silk was maintained at 50 per cent. In 1893, under the "Wilson tariff," it was reduced to 45 per cent. The Dingley tariff of 1897 increased the duty to 50 per cent., at which it still remains.

In this act, now in force, are included certain specific features ("pound duties") intended to protect against flooding the American market with cheap, light-weight fabrics from Switzerland, Germany, France and the Orient, and this it has accomplished fairly well; a number of foreign manufacturers of this class of goods, having found it unprofitable to continue to make them abroad, have removed their plants wholly or in part to this country, thus giving more employment to American labor. Several such plants have been established in Pennsylvania towns since the "Dingley tariff" became operative.

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*Brockett places the date of the act making raw silk free as 1857, but this is very evidently a mistake. He also makes the act of 1841, fixing the duty on manufactured silk at 20 per cent., to include raw also, and at the same rate of duty. This, also, is obviously an error; the duty on raw remained unchanged, at 12½ per cent., from 1832 to 1842, when it was made 50 cents per pound of 16 ounces, including all silks in the gum, in hanks, reeled or otherwise.

Two staunch and able friends of the silk industry in the Congress of the United States passed away during 1898. Hon. Justin S. Morrill, Senator from Vermont, and Hon. Nelson Dingley, Jr., of Maine, chairman of the Ways and Means Committee of Congress, who framed the tariff act of July, 1897, which bears his name. The "Morrill Tariff Acts" of the period of the Civil War, first gave impetus to silk weaving in America and it was largely through the beneficial results of their provisions that the industry of the country has achieved its present proud position and been crowned with great success as an industrial and commercial fact.

As a mark of esteem of its officers and members, and in appreciation of his great public services, the Silk Association of America sent a suitable wreath for the funeral of Mr. Morrill, at the Senate Chamber, in Washington, on December 31st, last.

COMPARATIVE STATISTICS OF MANUFACTURES. 1892 SERIES.

DAYS IN OPERATION.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

NOTE.—(In this table the average number of days of employment by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898, is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	321	....	....
1893,	13	286	—35	....
1894,	13	301	+15	....
1895,	13	327	+26	....
1896,	13	293	—34	....
1897,	13	319	+26	....
1898,	13	344	+25	+23
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	314	....	....
1893,	32	307	—7	....
1894,	32	300	—7	....
1895,	32	310	+10	....
1896,	32	308	—2	....
1897,	32	311	+3	....
1898,	32	321	+10	+7

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	290	....	....
1893,	14	243	—47	....
1894,	14	267	+24	....
1895,	14	307	+40	....
1896,	14	258	—49	....
1897,	14	271	+13	....
1898,	14	290	+19	....
PLATE AND BAR.				
1892,	3	250	....	....
1893,	3	198	—52	....
1894,	3	232	+34	....
1895,	3	257	+25	....
1896,	3	229	—28	....
1897,	3	219	—60	....
1898,	3	285	+56	....
STEEL.				
1892,	13	281	....	....
1893,	13	270	—11	....
1894,	13	272	+2	....
1895,	13	279	+7	....
1896,	13	300	+15	+50
1897,	13	271	+52	....
1898.	13	282	+11	+1

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	307	....	....
1893,	4	308	+1	....
1894,	4	307	—1	....
1895,	4	306	—1	....
1896,	4	305	—1	....
1897,	4	304	—1	....
1898,	4	306	+2	—1
IRON FORGING.				
1892,	4	262	....	....
1893,	4	244	—18	....
1894,	4	296	+52	....
1895,	4	289	—7	....
1896,	4	246	—43	....
1897,	4	267	+21	....
1898,	4	293	+26	+31
NAILS AND SPIKES.				
1892,	10	256	....	....
1893,	10	230	—26	....
1894,	10	228	—2	....
1895,	10	220	—8	....
1896,	10	205	—15	....
1897,	10	243	+38	....
1898,	10	205	—38	—51

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	306	....	....
1893,	2	305	—1	....
1894,	2	288	—17	....
1895,	2	291	+3	....
1896,	2	298	+7	....
1897,	2	304	+6	....
1898,	2	306	+2	....
PIPES AND TUBES.				
1892,	4	267	....	....
1893,	4	260	—7	....
1894,	4	268	+8	....
1895,	4	288	+20	....
1896,	4	296	+8	....
1897,	4	278	—18	....
1898,	4	284	+6	+17
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	301	....	....
1893,	25	279	—22	....
1894,	25	282	+3	....
1895,	25	299	+17	....
1896,	25	289	—10	...
1897,	25	298	+9	....
1898,	25	300	+2	—1

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	284	....	....
1893,	9	272	—12	....
1894,	9	210	—62	....
1895,	9	229	+19	....
1896,	9	222	—7	....
1897,	9	236	+14	....
1898,	9	246	+10	—38
HARDWARE.				
1892,	4	295	....	....
1893,	4	249	—46	....
1894,	4	205	—44	....
1895,	4	260	+55	....
1896,	4	260	....	....
1897,	4	261	+1	....
1898,	4	233	—28	—62
MALLEABLE IRON.				
1892,	2	302	....	....
1893,	2	262	—40	....
1894,	2	247	—15	....
1895,	2	272	+25	....
1896,	2	270	—2	....
1897,	2	273	+3	....
1898,	2	292	+19	—10

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	290	....	....
1893,	1	240	—50	....
1894,	1	225	—15	....
1895,	1	237	+12	....
1896,	1	235	—2	....
1897,	1	230	—5	....
1898,	1	300	+70	+10
SAWS, EDGE TOOLS, ETC.				
1892,	5	302	....	....
1893,	5	284	—18	....
1894,	5	286	+2	....
1895,	5	294	+8	....
1896,	5	279	—15	....
1897,	5	274	—5	....
1898,	5	299	+25	—3
METAL AND METALLIC GOODS.				
1892,	8	321	....	....
1893,	8	282	—39	....
1894,	8	288	+6	....
1895,	8	311	+23	....
1896,	8	304	—7	....
1897,	8	288	—16	....
1898,	8	309	+21	—12

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	305	....	....
1893,	14	284	—21	....
1894,	14	267	—17	....
1895,	14	292	+25	....
1896,	14	291	—1	....
1897,	14	295	+4	....
1898,	14	301	+6	—4
ENGINES AND BOILERS.				
1892,	6	323	....	....
1893,	6	289	—34	....
1894,	6	298	+9	....
1895,	6	292	—6	....
1896,	6	291	—1	....
1897,	6	297	+6	....
1898,	6	303	+6	—20
BOILERS.				
1892,	7	277	....	....
1893,	7	250	—27	....
1894,	7	220	—30	....
1895,	7	205	—15	....
1896,	7	209	+4	....
1897,	7	248	+39	....
1898,	7	277	+29	....

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	310	....	....
1893,	4	305	—5	....
1894,	4	305	....	....
1895,	4	303	—2	....
1896,	4	285	—18	....
1897,	4	305	+20	....
1898,	4	304	—1	—6
CAR SPRINGS.				
1892,	1	312	....	....
1893,	1	312	....	....
1894,	1	255	—57	....
1895,	1	277	+22	....
1896,	1	255	—22	....
1897,	1	244	—11	....
1898,	1	286	+42	—26
CAR COUPLERS.				
1892,	1	310	....	....
1893,	1	248	—62	....
1894,	1	203	—45	....
1895,	1	285	+82	....
1896,	1	303	+18	....
1897,	1	303	....	....
1898,	1	303	....	—7

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	301	....	....
1893,	8	282	—19	....
1894,	8	261	—21	....
1895,	8	303	+42	....
1896,	8	284	—19	....
1897,	8	288	+4	....
1898,	8	297	+9	—4
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	253	....	....
1893,	17	195	—58	....
1894,	17	261	+66	....
1895,	17	241	—20	....
1896,	17	229	—12	....
1897,	17	268	+39	....
1898.	17	271	+3	+18
SHIP BUILDING.				
1892,	1	310	....	....
1893,	1	309	—1	....
1894,	1	310	+1	....
1895,	1	307	—3	....
1896,	1	307	....	....
1897,	1	310	+3	....
1898,	1	307	—3	—3

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	300	....	....
1893,	2	276	—24	....
1894,	2	300	+24	....
1895,	2	309	+9	....
1896,	2	293	—16	....
1897,	2	301	+8	....
1898,	2	307	+6	+7
PIANOS AND ORGANS.				
1892,	2	303	....	....
1893,	2	280	—23	....
1894,	2	259	—21	....
1895,	2	290	+31	....
1896,	2	298	+7	....
1897,	2	298	....	....
1898,	2	296	—2	—7
RUBBER BOOTS AND SHOES.				
1892,	1	250	....	....
1893,	1	230	—20	....
1894,	1	248	+18	....
1895,	1	271	+23	....
1896,	1	244	—27	....
1897,	1	222	—22	....
1898,	1	244	+22	—6

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARBONS.				
1892,	1	300	....	....
1893,	1	300	....	....
1894,	1	300	....	....
1895,	1	300	....	....
1896,	1	310	+10	....
1897,	1	310	....	....
1898,	1	310	....	+10
CARPETS.				
1892,	24	280	....	....
1893,	24	218	—62	....
1894,	24	259	+41	....
1895,	24	277	+18	....
1896,	24	263	—14	....
1897,	24	291	+28	....
1898,	24	286	—5	+6
WOOLEN YARNS.				
1892,	10	299	....	....
1893,	10	245	—54	....
1894,	10	277	+32	....
1895,	10	293	+16	...
1896,	10	269	—24	...
1897,	10	296	+27	....
1898,	10	274	—22	—25

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	296	....	....
1893,	3	250	—46	....
1894,	3	261	+11	....
1895,	3	288	+27	....
1896,	3	276	—12	....
1897,	3	297	+21	....
1898.	3	295	—2	—1
WORSTED YARNS.				
1892,	3	300	....	....
1893,	3	199	—101	....
1894,	3	277	+78	....
1895,	3	301	+24	....
1896,	3	246	—55	....
1897,	3	288	+42	....
1898,	3	256	—32	—44
MISCELLANEOUS YARNS.				
1892,	9	302	....	....
1893,	9	252	—50	....
1894,	9	262	+10	....
1895,	9	284	+22	....
1896,	9	214	—70	....
1897,	9	283	+69	....
1898,	9	263	—20	—39

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	299	....	....
1893,	16	245	—54	....
1894,	16	278	+33	....
1895,	16	298	+20	....
1896,	16	274	—24	....
1897,	16	290	+16	....
1898,	16	289	—1	—10
COTTON GOODS.				
1892,	17	303	....	....
1893,	17	249	—54	....
1894,	17	246	—3	....
1895,	17	285	+39	....
1896,	17	258	—27	....
1897,	17	293	+35	....
1898,	17	298	+5	—5
COTTON AND WOOLEN GOODS.				
1892,	12	301	....	....
1893,	12	255	—46	....
1894,	12	258	+3	....
1895,	12	265	+7	....
1896,	12	220	—45	....
1897,	12	270	+50	....
1898,	12	272	+2	—29

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WORSTED GOODS.				
1892,	3	310	....	....
1893,	3	222	—88	....
1894,	3	237	+15	....
1895,	3	265	+28	....
1896,	3	220	—45	....
1897,	3	289	+69	....
1898,	3	273	—16	—37
KNIT GOODS.				
1892,	5	313	....	....
1893,	5	278	—35	....
1894,	5	254	—24	....
1895,	5	283	+29	....
1896,	5	261	—22	....
1897,	5	271	+10	....
1898,	5	253	—18	—60
CHENILLE GOODS.				
1892,	5	322	....	....
1893,	5	295	—27	....
1894,	5	299	+4	....
1895,	5	300	+1	....
1896,	5	291	—9	....
1897,	5	301	+10	....
1898.	5	302	+1	—20

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
MIXED TEXTILES.				
1892,	9	303	....	....
1893,	9	290	—13	....
1894,	9	289	—1	....
1895,	9	298	+9	....
1896,	9	282	—16	....
1897,	9	282	....	....
1898,	9	300	+18	—3
TAPESTRY AND TABLE COVERS.				
1892,	3	302	....	....
1893,	3	291	—11	....
1894,	3	300	+9	....
1895,	3	295	—5	....
1896,	3	289	—6	....
1897,	3	291	+2	....
1898,	3	291	....	—11
HOSIERY.				
1892,	13	296	....	....
1893,	13	261	—35	....
1894,	13	273	+12	....
1895,	13	294	+21	....
1896,	13	288	—6	....
1897,	13	288	....	....
1898,	13	279	—9	—17

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895. 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
HOSIERY AND KNIT GOODS.				
1892,	3	300	....	....
1893,	3	293	—7	....
1894,	3	300	+7	....
1895,	3	272	—28	....
1896,	3	289	+17	....
1897,	3	300	+11	....
1898,	3	300	....	....
SILK BROAD GOODS.				
1892,	4	304	....	....
1893,	4	247	—57	....
1894,	4	292	+45	....
1895,	4	303	+11	....
1896,	4	274	—29	....
1897,	4	303	+29	....
1898,	4	292	—11	—12
RIBBONS.				
1892,	1	307	....	....
1893,	1	247	—60	....
1894,	1	302	+55	....
1895,	1	303	+1	....
1896,	1	304	+1	....
1897,	1	300	—4	....
1898,	1	300	....	—7

PERSONS EMPLOYED.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the average number of persons employed by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	2,668	....	....
1893,	13	2,222	—446	....
1894,	13	1,751	—471	....
1895,	13	2,269	+518	....
1896,	13	2,242	—27	....
1897,	13	1,904	—338	......
1898.	13	2,124	+220	—544
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	35,368	......	....
1893,	32	32,695	—2,673	....
1894,	32	30,120	—2,575	....
1895,	32	35,123	+5,003	....
1896,	32	34,755	—368	....
1897,	32	35,579	+824	......
1898,	32	40,175	+4,596	+4,807
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	5,089	....	....
1893,	14	4,590	—499	....

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION BY SAME ESTABLISHMENTS FOR EACH OF THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
HOSIERY AND KNIT GOODS.				
1892,	3	300	....	....
1893,	3	293	—7	....
1894,	3	300	+7	....
1895,	3	272	—28	....
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1897,	3	300	+11	....
1898,	3	300	....	....
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1896,	4	274	—29	....
1897,	4	303	+29	....
1898,	4	292	—11	—12
RIBBONS.				
1892,	1	307	....	....
1893,	1	247	—60	....
1894,	1	302	+55	....
1895,	1	303	+1	....
1896,	1	304	+1	....
1897,	1	300	—4	....
1898,	1	300	....	—7

PERSONS EMPLOYED.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the average number of persons employed by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
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1892,	13	2,668	....	....
1893,	13	2,222	—446	....
1894,	13	1,751	—471	....
1895,	13	2,269	+518	....
1896,	13	2,242	—27	....
1897,	13	1,904	—338	......
1898,	13	2,124	+220	—544
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	35,368	......	....
1893,	32	32,695	—2,673	....
1894,	32	30,120	—2,575	....
1895,	32	35,123	+5,003	....
1896,	32	34,755	—368	....
1897,	32	35,579	+824	......
1898,	32	40,175	+4,596	+4,807
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	5,089	....	....
1893,	14	4,590	—499	....

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	4,294	—296	....
1895,	14	4,869	+575	....
1896,	14	4,522	—347	....
1897,	14	5,205	+683	......
1898,	14	6,524	+1,319	+1,435
PLATE AND BAR.				
1892,	3	3,269	....	....
1893,	3	2,330	—939	....
1894,	3	1,735	—595	....
1895,	3	2,263	+528	....
1896,	3	1,295	—968	....
1897,	3	1,360	+65	......
1898,	3	2,372	+1,012	—897
STEEL.				
1892,	13	13,075	......	......
1893,	13	10,585	—2,490	......
1894,	13	9,778	—807	......
1895,	13	12,138	+2,360	......
1896,	13	10,058	—2,080	......
1897,	13	10,361	+303	......
1898,	13	12,176	+1,815	—899

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	1,350	......	......
1893,	4	1,202	—148	......
1894,	4	976	—226	......
1895,	4	1,438	+462	......
1896,	4	1,298	—140	......
1897,	4	1,086	—212	......
1898,	4	1,435	+349	+85
IRON FORGING.				
1892,	4	583	......	......
1893,	4	507	—76	......
1894,	4	469	—38	......
1895,	4	594	+125	......
1896,	4	569	—25	......
1897,	4	533	—36	......
1898,	4	668	+135	+85
NAILS AND SPIKES.				
1892,	10	3,015	......	......
1893,	10	2,840	—175	......
1894,	10	2,305	—535	......
1895,	10	2,422	+117	......
1896,	10	1,891	—531	......
1897,	10	1,714	—177	......
1898,	10	2,099	+385	—916

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	615	......	......
1893,	2	695	+80	......
1894,	2	560	—135	......
1895,	2	638	+78	......
1896,	2	530	—108	......
1897,	2	576	+46	......
1898,	2	758	+182	+143
PIPES AND TUBES.				
1892,	4	1,336	......	......
1893,	4	1,311	—25	......
1894,	4	1,263	—48	......
1895,	4	1,454	+119	......
1896,	4	1,326	—128	......
1897,	4	1,357	+31	......
1898,	4	1,612	+255	+276
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	3,554	......	......
1893,	25	3,097	—457	......
1894,	25	2,603	—494	......
1895,	25	3,066	+463	......
1896,	25	2,794	—272	......
1897,	25	3,002	+208	......
1898,	25	3,417	+415	—137

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	1,243	......	......
1893,	9	1,361	+118	......
1894,	9	1,238	—123	......
1895,	9	1,285	+47	.....
1896,	9	1,296	+11	.....
1897,	9	1,278	—18	......
1898.	9	1,310	+32	+67
HARDWARE.				
1892,	4	1,560	.....	......
1893,	4	1,544	—16	......
1894,	4	1,464	—80	......
1895,	4	1,586	+122	......
1896,	4	1,464	—122	......
1897,	4	1,569	+105	......
1898,	4	1,695	+126	+135
MALLEABLE IRON.				
1892,	2	401	......	......
1893,	2	362	—39	......
1894,	2	293	—69	......
1895,	2	367	+74	......
1896,	2	445	+78	......
1897,	2	431	—14	......
1898,	2	697	+266	+296

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	95	......	......
1893,	1	75	—20	......
1894,	1	65	—10	......
1895,	1	81	+16	......
1896,	1	70	—11	......
1897,	1	60	—10	......
1898,	1	85	+25	—10
SAWS, EDGE TOOLS, ETC.				
1892,	5	2,448	......	......
1893,	5	2,210	—238	......
1894,	5	1,965	—245	......
1895,	5	2,188	+223	......
1896,	5	2,171	—17	......
1897,	5	2,126	—45	......
1898,	5	2,549	+423	+101
METAL AND METALLIC GOODS.				
1892,	8	1,726	......	......
1893,	8	1,622	—104	......
1894,	8	1,500	—122	......
1895,	8	1,704	+204	......
1896,	8	1,640	—64	......
1897,	8	1,515	—125	......
1898,	8	1,609	+94	—117

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	11,591	......	......
1893,	14	11,644	+53	......
1894,	14	8,441	—3,203	......
1895,	14	9,363	+922	......
1896,	14	10,228	+865	......
1897,	14	10,038	—190	......
1898,	14	12,397	+2,359	+806
ENGINES AND BOILERS.				
1892,	6	1,635	......	......
1893,	6	1,384	—251	......
1894,	6	992	—392	......
1895,	6	1,226	+234	......
1896,	6	1,326	+100	......
1897,	6	1,205	—121	......
1898,	6	1,269	+64	—366
BOILERS.				
1892,	7	762	......	......
1893,	7	722	—40	......
1894,	7	691	—31	......
1895,	7	694	+3	......
1896,	7	747	+53	......
1897,	7	652	—95	......
1898,	7	810	+158	+48

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	1,217	......	......
1893,	4	971	—246	......
1894,	4	647	—324	......
1895,	4	970	+323	......
1896,	4	738	—232	......
1897,	4	630	—108	......
1898,	4	757	+127	—460
CAR SPRINGS.				
1892,	1	207	......	......
1893,	1	187	—20	......
1894,	1	108	—79	......
1895,	1	107	—1	......
1896,	1	115	+8	......
1897,	1	125	+10	......
1898,	1	140	+15	—67
CAR COUPLERS.				
1892,	1	663	......	......
1893,	1	570	—93	......
1894,	1	416	—154	......
1895,	1	606	+190	......
1896,	1	976	+370	......
1897,	1	813	—163	......
1898,	1	783	—30	+120

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	3,566	......	......
1893,	8	3,144	—422	......
1894,	8	2,830	—314	......
1895,	8	2,887	+57	......
1896,	8	2,841	—46	......
1897,	8	2,661	—180	......
1898,	8	3,572	+911	+6
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	6,512	......	.....
1893,	17	5,993	—519	......
1894,	17	5,152	—841	......
1895,	17	6,195	+1,043	......
1896,	17	4,868	—1,327	......
1897,	17	4,993	+125	......
1898,	17	5,572	+579	—940
SHIP BUILDING.				
1892,	1	440	......	......
1893,	1	583	+143	......
1894,	1	395	—188	......
1895,	1	336	—59	......
1896,	1	516	+180	......
1897,	1	388	—128	......
1898,	1	810	+422	+370

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	516	......	......
1893,	2	527	+11	......
1894,	2	501	—26	......
1895,	2	535	+34	......
1896,	2	505	—30	......
1897,	2	479	—26	......
1898,	2	491	+12	—25
PIANOS AND ORGANS.				
1892,	2	162	......	......
1893,	2	162	......	......
1894,	2	162	......	......
1895,	2	142	—20	......
1896,	2	126	—16	......
1897,	2	125	—1	......
1898,	2	127	+2	—35
RUBBER BOOTS AND SHOES.				
1892,	1	325	......	......
1893,	1	350	+25	......
1894,	1	350	......	......
1895,	1	398	+48	......
1896,	1	359	—39	......
1897,	1	375	+16	......
1898,	1	400	+25	+75

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARBONS.				
1892,	1	48	......	......
1893,	1	50	+2	......
1894,	1	55	+5	......
1895,	1	49	—6	......
1896,	1	50	+1	......
1897,	1	50	......	......
1898,	1	50	......	+2
CARPETS.				
1892,	24	6,750	......	......
1893,	24	5,660	—1,090	......
1894,	24	5,326	—334	......
1895,	24	5,907	+581	......
1896,	24	5,362	—545	......
1897,	24	5,496	+134	......
1898,	24	5,123	—373	- 1,627
WOOLEN YARNS.				
1892,	10	1,865	......	......
1893,	10	1,471	—394	......
1894,	10	1,148	—323	......
1895,	10	1,616	+468	......
1896,	10	1,331	—285	......
1897,	10	1,476	+145	......
1898,	10	1,513	+37	-352

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

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1892,	2	516	......	......
1893,	2	527	+11	......
1894,	2	501	—26	......
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1893,	2	162	......	......
1894,	2	162	......	......
1895,	2	142	—20	......
1896,	2	126	—16	......
1897,	2	125	—1	......
1898,	2	127	+2	—35
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1893,	1	350	+25	......
1894,	1	350	......	......
1895,	1	398	+48	......
1896,	1	359	—39	......
1897,	1	375	+16	......
1898,	1	400	+25	+75

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
CARBONS.				
1892,	1	48	......	......
1893,	1	50	+2	......
1894,	1	55	+5	......
1895,	1	49	—6	......
1896,	1	50	+1	......
1897,	1	50	......	......
1898,	1	50	......	+2
CARPETS.				
1892,	24	6,750	......	......
1893,	24	5,660	—1,090	......
1894,	24	5,326	—334	......
1895,	24	5,907	+581	......
1896,	24	5,362	—545	......
1897,	24	5,496	+134	......
1898,	24	5,123	—373	—1,627
WOOLEN YARNS.				
1892,	10	1,865	......	......
1893,	10	1,471	—394	......
1894,	10	1,148	—323	......
1895,	10	1,616	+468	......
1896,	10	1,331	—285	......
1897,	10	1,476	+145	......
1898,	10	1,513	+37	—352

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	259	......	.....
1893,	3	233	—26	......
1894,	3	270	+37	......
1895,	3	294	+24	......
1896,	3	220	—74	......
1897,	3	255	+35	......
1898,	3	267	+12	+8
WORSTED YARNS.				
1892,	3	1,002	......	......
1893,	3	708	—294	......
1894,	3	722	+14	......
1895,	3	1,006	+284	......
1896,	3	665	—341	......
1897,	3	728	+63	......
1898,	3	713	—15	—289
MISCELLANEOUS YARNS.				
1892,	9	544	......	......
1893.	9	477	—67	......
1894.	9	418	—59	......
1895.	9	445	+27	......
1896.	9	378	—67	......
1897,	9	422	+44	......
1898,	9	393	—29	—151

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	5,573	......	......
1893,	16	4,926	—647	......
1894,	16	4,856	—70	......
1895,	16	5,405	+549	......
1896,	16	3,933	—1,472	......
1897,	16	4,121	+188	......
1898,	16	4,136	+15	—1,437
COTTON GOODS.				
1892,	17	4,308	......	......
1893,	17	3,874	—434	......
1894,	17	3,687	—187	......
1895,	17	3,925	+238	......
1896,	17	3,894	—31	......
1897,	17	4,173	+279	......
1898,	17	4,246	+73	—62
COTTON AND WOOLEN GOODS.				
1892,	12	1,397	......	......
1893,	12	1,260	—137	......
1894,	12	1,248	—12	......
1895,	12	1,370	+122	......
1896,	12	1,182	—188	......
1897,	12	1,162	—20	......
1898,	12	1,320	+158	—77

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WORSTED GOODS.				
1892,	3	661	......	......
1893,	3	386	—275	......
1894,	3	461	+75	......
1895,	3	547	+86	......
1896,	3	389	—158	......
1897,	3	610	+221	......
1898,	3	583	—27	—78
KNIT GOODS.				
1892,	5	989	......	......
1893,	5	973	—16	......
1894,	5	807	—166	......
1895,	5	1,051	+244	......
1896,	5	973	—78	......
1897,	5	1,010	+37	......
1898,	5	980	—30	—9
CHENILLE GOODS.				
1892,	5	1,577	......	......
1893,	5	1,153	—424	......
1894,	5	1,176	+23	......
1895,	5	1,189	+13	......
1896,	5	1,378	+189	......
1897,	5	1,542	+164	......
1898,	5	1,575	+33	—2

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
MIXED TEXTILES.				
1892,	9	2,024	......	......
1893,	9	1,688	—336	......
1894,	9	1,847	+159	......
1895,	9	2,028	+181	......
1896,	9	1,894	—134	......
1897,	9	2,025	+131	......
1898,	9	2,120	+95	+96
TAPESTRY AND TABLE COVERS.				
1892,	3	225	......	......
1893,	3	187	—38	......
1894,	3	229	+42	......
1895,	3	326	+97	......
1896,	3	296	—30	......
1897,	3	393	+97	......
1898,	3	462	+69	+237
HOSIERY.				
1892,	13	2,944	......	......
1893,	13	2,647	—297	......
1894,	13	2,589	—58	......
1895,	13	3,329	+740	......
1896,	13	2,708	—621	......
1897,	13	3,012	+304	......
1898,	13	3,212	+200	+268

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF PERSONS EMPLOYED, SKILLED AND UNSKILLED, BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 and 1898.

Character of Industry and Years.	Number of establishments considered.	Number of persons employed.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
HOSIERY AND KNIT GOODS.				
1892,	3	595	......	......
1893,	3	610	+15	......
1894,	3	600	—10	......
1895,	3	628	+28	......
1896,	3	453	—175	......
1897,	3	538	+85	......
1898,	3	471	—67	—124
SILK BROAD GOODS.				
1892,	4	1,736	......	......
1893,	4	1,092	—644	......
1894,	4	1,446	+354	......
1895,	4	1,918	+472	......
1896,	4	1,850	—68	......
1897,	4	2,667	+817	......
1898,	4	2,964	+297	+1,228
RIBBONS.				
1892,	1	119	......	......
1893,	1	112	—7	......
1894,	1	122	+10	......
1895,	1	135	+13	......
1896,	1	125	—10	......
1897,	1	175	+50	......
1898,	1	201	+26	+82

AGGREGATE WAGES PAID.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the aggregate wages paid by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	$1,222,091	......	......
1893,	13	968,289	—$253,802	......
1894,	13	658,393	—309,896	......
1895,	13	1,060,012	+401,619	......
1896,	13	947,503	—112,509	......
1897,	13	797,839	—149,664	......
1898,	13	950,759	+152,920	—$271,332
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	19,909,005	......	......
1893,	32	17,884,919	—2,024,086	......
1894,	32	14,537,538	—3,347,381	......
1895,	32	17,620,324	+3,082,786	......
1896,	32	17,829,462	+209,138	......
1897,	32	17,159,786	—669,676	......
1898.	32	20,005,631	+2,845,845	+96,626
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	3,225,444	......	......
1893,	14	2,658,514	—566,930	......

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	$2,251,379	—$407,135	......
1895,	14	2,728,209	+476,830	......
1896,	14	2,390,653	—337,556	......
1897,	14	2,569,347	+178,694	......
1898.	14	3,402,674	+833,327	+$177,230
PLATE AND BAR.				
1892,	3	1,685,275	......	......
1893,	3	1,150,276	—534,999	......
1894,	3	696,970	—453,306	......
1895,	3	864,145	+167.175	......
1896,	3	596,165	—267,980	......
1897,	3	626,280	+30,115	......
1898,	3	1,082,343	+456,063	—602,932
STEEL.				
1892,	13	6,601,181	......	......
1893,	13	5,234,148	—1,367,033	......
1894,	13	4,492,128	—742,020	......
1895,	13	5,872,084	+1,379,956	......
1896,	13	4,592,017	—1,280,067	......
1897,	13	4,918,524	+326,507	......
1898,	13	5,828,123	+909,599	—773,058

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	$810,020	......	......
1893,	4	699,209	—$110,811	......
1894,	4	488,190	—211,019	......
1895,	4	786,657	+298,467	......
1896,	4	718,716	—67,941	......
1897,	4	597,775	—120,941	......
1898,	4	771,191	+173,416	—$38,829
IRON FORGING.				
1892,	4	379,070	......	......
1893,	4	302,651	—76,419	......
1894,	4	237,457	—65,194	......
1895,	4	311,275	+73,818	......
1896,	4	295,092	—16,183	......
1897,	4	281,250	—13,842	......
1898,	4	365,737	+84,487	—13,333
NAILS AND SPIKES.				
1892,	10	1,294,034	......	......
1893,	10	1,130,151	—163,883	......
1894,	10	770,354	—359,797	......
1895,	10	848,142	+77,778	......
1896,	10	527,201	—320,941	......
1897,	10	593,927	+66,726	......
1898,	10	556,145	—37,782	—737,889

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	$238,112	......	......
1893,	2	235,777	—$2,335	......
1894,	2	208,854	—26,923	......
1895,	2	257,202	+48,348	......
1896,	2	211,195	—46,007	......
1897,	2	200,064	—11,131	......
1898,	2	291,593	+91,529	+$53,481
PIPES AND TUBES.				
1892,	4	575,531	......	......
1893,	4	519,129	—56,402	......
1894,	4	513,268	—5,861	......
1895,	4	646,083	+132,815	......
1896,	4	658,449	+12,366	......
1897,	4	642,407	—16,042	......
1898,	4	769,577	+127,170	+194,046
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	1,967,645	......	......
1893,	25	1,533,465	—434,180	......
1894,	25	1,313,309	—220,156	......
1895,	25	1,571,056	+257,747	......
1896,	25	1,384,299	—186,757	......
1897,	25	1,513,104	+128,805	......
1898,	25	1,800,212	+287,108	—167,433

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$630,622	......	......
1893,	9	674,514	+$43,892	......
1894,	9	526,222	—148,292	......
1895,	9	575,802	+49,580	......
1896,	9	559,614	—16,188	......
1897,	9	574,595	+14,981	......
1898,	9	595,133	+20,538	—$35,489
HARDWARE.				
1892,	4	608,700	......	......
1893,	4	581,468	—27,232	......
1894,	4	494,538	—86,930	......
1895,	4	589,411	+94,873	......
1896,	4	506,748	—82,663	......
1897,	4	555,295	+48,547	......
1898,	4	575,798	+20,503	—32,902
MALLEABLE IRON.				
1892,	2	207,159	......	......
1893,	2	167,644	—39,515	......
1894,	2	129,634	—38,010	......
1895,	2	185,490	+55,856	......
1896,	2	206,976	+21,486	......
1897,	2	208,714	+1,738	......
1898,	2	341,962	+133,248	+134,803

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$34,000	......	......
1893,	1	24,000	—$10,000	......
1894,	1	20,000	—4,000	......
1895,	1	28,400	+8,400	......
1896,	1	25,000	—3,400	......
1897,	1	21,610	—3,390	......
1898,	1	31,100	+9,490	—$2,900
SAWS, EDGE TOOLS, ETC.				
1892,	5	1,306,442	......	......
1893,	5	1,166,262	—140,180	......
1894,	5	872,555	—293,707	......
1895,	5	1,078,514	+205,959	......
1896,	5	1,083,069	+4,555	......
1897,	5	988,912	—94,157	......
1898,	5	1,273,829	+284,917	—32,613
METAL AND METALLIC GOODS.				
1892,	8	833,385	......	......
1893,	8	738,036	—95,349	......
1894,	8	675,524	—62,512	......
1895,	8	829,877	+154,353	......
1896,	8	812,633	—17,244	......
1897,	8	712,676	—99,957	......
1898,	8	762,480	+49,804	—70,905

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$6,941,946	......	......
1893,	14	6,528,803	—$413,143	......
1894,	14	4,032,489	—2,496,314	......
1895,	14	5,231,956	+1,199,467	......
1896,	14	5,402,517	+170,561	......
1897,	14	5,398,050	—4,467	......
1898,	14	7,149,884	+1,751,834	+$207,938
ENGINES AND BOILERS.				
1892,	6	820,391	......	......
1893,	6	658,487	—161,904	......
1894,	6	521,260	—137,227	......
1895,	6	647,889	+126,629	......
1896,	6	647,307	—582	......
1897,	6	552,180	—95,127	......
1898,	6	639,408	+87,228	—180,983
BOILERS.				
1892,	7	394,594	......	......
1893,	7	285,385	—109,209	......
1894,	7	220,692	—64,693	......
1895,	7	253,044	+32,352	......
1896,	7	231,665	—21,379	......
1897,	7	236,863	+5,198	......
1898,	7	298,175	+61,312	—96,419

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	$532,673	......	......
1893,	4	413,517	—$119,156	......
1894,	4	262,240	—151,277	......
1895,	4	450,391	+188,151	......
1896,	4	293,005	—157,386	......
1897,	4	275,270	—17,735	......
1898,	4	333,277	+58,007	—$199,396
CAR SPRINGS.				
1892,	1	139,800	......	......
1893,	1	104,498	—35,302	......
1894,	1	49,664	—54,834	......
1895,	1	67,556	+17,892	......
1896,	1	76,031	+8,475	......
1897,	1	69,144	—6,887	......
1898,	1	95,162	+26,018	—44,638
CAR COUPLERS.				
1892,	1	361,338	......	......
1893,	1	281,375	—79,963	......
1894,	1	160,978	—120,397	......
1895,	1	304,785	+143,807	......
1896,	1	436,177	+131,392	......
1897,	1	371,800	—64,377	......
1898,	1	351,902	—19,898	—9,436

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	$1,901,062	......	......
1893,	8	1,579,523	—$321,539	......
1894,	8	1,292,310	—287,213	......
1895,	8	1,533,033	+240,723	......
1896,	8	1,363,150	—169,883	......
1897,	8	1,335,463	—27,687	......
1898,	8	1,912,759	+577,296	+$11,697
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	3,013,108	......	......
1893,	17	2,209,369	—803,739	......
1894,	17	2,219,127	+9,758	......
1895,	17	2,198,916	—20,211	......
1896,	17	1,903,683	—295,233	......
1897,	17	2,257,805	+354,122	......
1898,	17	2,525,933	+268,128	—487,175
SHIP BUILDING.				
1892,	1	242,358	......	......
1893,	1	324,439	+82,081	......
1894,	1	226,858	—97,581	......
1895,	1	190,820	—36,038	......
1896,	1	285,103	+94,283	......
1897,	1	215,604	—69,499	......
1898,	1	397,489	+181,885	+155,131

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	$199,277	......	......
1893,	2	181,848	—$17,429	......
1894,	2	173,846	—8,002	......
1895,	2	191,409	+17,563	......
1896,	2	176,371	—15,038	......
1897,	2	174,515	—1,856	......
1898,	2	185,638	+11,123	—$13,639
PIANOS AND ORGANS.				
1892,	2	53,972	......	......
1893,	2	50,583	—3,389	......
1894,	2	46,187	—4,396	......
1895,	2	49,644	+3,457	......
1896,	2	51,392	+1,748	......
1897,	2	52,502	+1,110	......
1898,	2	54,027	+1,525	+55
RUBBER BOOTS AND SHOES.				
1892,	1	141,784	......	......
1893,	1	145,471	+3,687	......
1894,	1	128,156	—17,315	......
1895,	1	150,705	+22,549	......
1896,	1	131,577	—19,128	......
1897,	1	103,639	—27,938	......
1898,	1	139,770	+36,131	—2,014

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
CARBONS.				
1892,	1	$25,000	......	......
1893,	1	27,000	+$2,000	......
1894,	1	29,000	+2,000	......
1895,	1	28,000	—1,000	......
1896,	1	24,000	—4,000	......
1897,	1	24,000	......	......
1898,	1	24,000	......	..$1,000
CARPETS.				
1892,	24	2,573,458	......	......
1893,	24	2,085,404	—488,054	......
1894,	24	1,002,657	—1,082,747	......
1895,	24	2,228,021	+1,225,364	......
1896,	24	1,830,621	—397,400	......
1897,	24	1,983,366	+152,745	......
1898,	24	1,824,963	—158,403	—748,495
WOOLEN YARNS.				
1892,	10	527,864	......	......
1893,	10	428,848	—99,016	......
1894,	10	286,557	—142,291	......
1895,	10	424,006	+137,449	......
1896,	10	408,385	—15,621	......
1897,	10	384,803	—23,582	......
1898,	10	461,866	+77,063	—65,998

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	$84,571	......	......
1893,	3	71,384	—$13,187	......
1894,	3	70,983	—401	......
1895,	3	89,806	+18,823	......
1896,	3	63,476	—26,330	......
1897,	3	78,009	+14,533	......
1898,	3	82,051	+4,042	—$2,520
WORSTED YARNS.				
1892,	3	298,181	......	......
1893,	3	211,833	—86,348	......
1894,	3	201,584	—10,249	......
1895,	3	278,890	+77,306	......
1896,	3	157,080	—121,810	......
1897,	3	201,321	+44,241	......
1898,	3	175,310	—26,011	—122,871
MISCELLANEOUS YARNS.				
1892,	9	212,052	......	......
1893,	9	150,765	—61,287	......
1894,	9	138,072	—12,693	......
1895,	9	159,564	+21,492	......
1896,	9	130,224	—29,340	......
1897,	9	156,864	+26,640	......
1898,	9	133,248	—23,616	—78,804

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	$1,953,364	......	......
1893,	16	1,527,984	—$425,380	......
1894,	16	1,388,781	—139,203	......
1895,	16	1,694,440	+305,659	......
1896,	16	1,199,111	—495,329	......
1897,	16	1,363,041	+163,930	......
1898,	16	1,384,116	+21,075	—$569,248
COTTON GOODS.				
1892,	17	1,656,805	......	......
1893,	17	1,186,610	—470,195	......
1894,	17	1,171,554	—15,056	......
1895,	17	1,303,844	+132,290	......
1896,	17	1,064,130	—239,714	......
1897,	17	1,251,253	+187,123	......
1898,	17	1,373,237	+121,984	—283,568
COTTON AND WOOLEN GOODS.				
1892,	12	483,504	....	....
1893,	12	390,597	—92,907	....
1894,	12	362,164	—28,433	......
1895,	12	420,075	+57,911	......
1896,	12	338,900	—81,175	......
1897,	12	359,586	+20,686	......
1898,	12	416,500	+56,914	—67,004

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WORSTED GOODS.				
1892,	3	$239,858	......	......
1893,	3	135,561	—$104,297	......
1894,	3	158,743	+23,182	......
1895,	3	192,633	+33,890	......
1896,	3	132,290	—60,343	......
1897,	3	256,513	+124,223	......
1898,	3	244,146	—12,367	+$4,288
KNIT GOODS.				
1892,	5	286,648	......	......
1893,	5	255,438	—31,210	......
1894,	5	205,732	—49,706	......
1895,	5	288,841	+83,109	......
1896,	5	228,053	—60,788	......
1897,	5	247,615	+19,562	......
1898,	5	247,184	—431	—39,464
CHENILLE GOODS.				
1892,	5	648,492	......	......
1893,	5	435,761	—212,731	......
1894,	5	442,828	+7,067	......
1895,	5	460,319	+17,491	......
1896,	5	501,772	+41,453	......
1897,	5	575,861	+74,089	......
1898,	5	561,012	—14,849	—87,480

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MIXED TEXTILES.				
1892,	9	$712,059	......	......
1893,	9	520,683	—$191,376	......
1894,	9	531,680	+10,997	......
1895,	9	615,095	+83,415	......
1896,	9	559,443	—55,652	......
1897,	9	591,656	+32,213	......
1898,	9	632,258	+40,602	—$79,801
TAPESTRY AND TABLE COVERS.				
1892,	3	94,620	......	......
1893,	3	68,484	—26,136	......
1894,	3	91,722	+23,238	......
1895,	3	124,723	+33,001	......
1896,	3	115,266	—9,457	......
1897,	3	161,275	+46,009	......
1898,	8	180,225	+18,950	+85,605
HOSIERY.				
1892,	13	770,891	......	......
1893,	13	660,803	—110,088	......
1894,	13	567,411	—93,392	......
1895,	13	863,884	+296,473	......
1896,	13	632,065	—231,819	......
1897,	13	773,370	+141,305	......
1898,	13	807,402	+34,032	+36,511

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate amount of wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
HOSIERY AND KNIT GOODS.				
1892,	3	$197,312	......	......
1893,	3	186,860	—$10,452	......
1894,	3	191,806	+4,946	......
1895,	3	179,494	—12,312	......
1896,	3	105,220	—74,274	......
1897,	3	148,908	+43,688	......
1898,	3	134,120	—14,788	—$63,192
SILK BROAD GOODS.				
1892,	4	430,455	......	......
1893,	4	248,372	—182,083	......
1894,	4	362,119	+113,747	......
1895,	4	449,854	+87,735	......
1896,	4	470,930	+21,076	......
1897,	4	632,685	+161,755	......
1898,	4	724,004	+91,319	+293,549
RIBBONS.				
1892,	1	40,661	......	......
1893,	1	30,646	—10,015	......
1894,	1	35,500	+4,854	......
1895,	1	49,346	+13,846	......
1896,	1	40,056	—9,290	......
1897,	1	71,250	+31,194	......
1898,	1	67,285	—3,965	+26,624

AVERAGE YEARLY EARNINGS.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the average yearly earnings in same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	$477 92	......	......
1893,	13	446 14	—$31 78	......
1894,	13	382 09	—64 05	......
1895,	13	483 66	+101 57	......
1896,	13	422 61	—61 05	......
1897,	13	419 03	—3 58	......
1898,	13	447 63	+28 60	—$30 29
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	562 91	......	......
1893,	32	547 02	—15 89	......
1894,	32	482 65	—64 37	......
1895,	32	501 65	+19 00	......
1896,	32	513 00	+11 35	......
1897,	32	482 30	—30 70	......
1898,	32	497 96	+15 66	—64 95
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	633 81	......	......
1893,	14	579 19	—54 62	......

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	$524 31	—$54 88	......
1895,	14	560 32	+36 01	......
1896,	14	528 67	—31 65	......
1897,	14	493 63	—35 04	......
1898,	14	521 56	+27 93	—$112 25
PLATE AND BAR.				
1892,	3	515 53	......	......
1893,	3	493 68	—21 85	......
1894,	3	401 71	—91 97	......
1895,	3	381 86	—19 85	......
1896,	3	460 36	+78 50	......
1897,	3	460 50	+14	......
1898,	3	456 30	—4 20	—59 23
STEEL.				
1892,	13	504 87	......	......
1893,	13	494 49	—10 38	......
1894,	13	459 41	—35 08	......
1895,	13	483 78	+24 37	......
1896,	13	456 55	—27 23	......
1897,	13	474 71	+18 16	......
1898,	13	478 66	+3 95	—26 21
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	600 01	......	......
1893,	4	581 70	—18 31	......

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK—Continued.				
1894,	4	$500 19	—$81 51	......
1895,	4	547 05	+46 86	......
1896,	4	553 71	+6 66	......
1897,	4	550 44	—3 27	......
1898,	4	537 42	—13 02	—$62 59
IRON FORGING.				
1892,	4	650 21	......	......
1893,	4	596 95	—53 26	......
1894,	4	506 31	—90 64	......
1895,	4	524 03	+17 72	......
1896,	4	518 62	—5 41	......
1897,	4	527 67	+9 05	......
1898.	4	547 51	+19 84	—102 70
NAILS AND SPIKES.				
1892,	10	429 19	......	......
1893,	10	397 94	—31 25	......
1894,	10	334 21	—63 73	......
1895,	10	350 18	+15 97	......
1896,	10	278 79	—71 39	......
1897,	10	346 52	+67 73	......
1898.	10	264 96	—81 56	—164 23

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	$387 17	......	......
1893,	2	339 24	—$47 93	......
1894,	2	372 95	+33 71	......
1895,	2	403 13	+30 18	......
1896,	2	398 48	—4 65	......
1897,	2	347 33	—51 15	......
1898,	2	384 69	+37 36	—$2 48
PIPES AND TUBES.				
1892,	4	430 78	......	......
1893,	4	395 98	—34 80	......
1894,	4	406 38	+10 40	......
1895,	4	444 34	+37 96	......
1896,	4	421 15	—23 19	......
1897,	4	473 40	+52 25	......
1898,	4	477 41	+4 01	+46 63
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	553 64	......	......
1893,	25	495 14	—58 50	......
1894,	25	504 53	+9 39	......
1895,	25	512 41	+7 88	......
1896,	25	495 45	—16 96	......
1897,	25	504 03	+8 58	......
1898,	25	526 84	+22 81	—26 80

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$507 34	......	......
1893,	9	496 33	—$11 01	......
1894,	9	425 06	—71 27	......
1895,	9	448 09	+23 03	......
1896,	9	431 80	—16 29	......
1897,	9	448 97	+17 17	......
1898,	9	454 30	+5 33	—$53 04
HARDWARE.				
1892,	4	388 94	......	......
1893,	4	376 59	—12 35	......
1894,	4	337 79	—38 80	......
1895,	4	371 63	+33 84	......
1896,	4	346 14	—25 49	......
1897,	4	353 98	+7 84	......
1898,	4	339 70	—14 28	—49 24
MALLEABLE IRON.				
1892,	2	516 61	......	......
1893,	2	463 11	—53 50	......
1894,	2	442 44	—20 67	......
1895,	2	505 42	+62 98	......
1896,	2	465 11	—40 31	......
1897,	2	484 25	+19 14	......
1898,	2	490 62	+6 37	—25 99

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$357 89	......	......
1893,	1	320 00	—$37 89	......
1894,	1	307 70	—12 30	......
1895,	1	350 42	+42 72	......
1896,	1	357 14	+6 72	......
1897,	1	360 17	+3 03	......
1898,	1	365 88	+5 71	+$7 99
SAWS, EDGE TOOLS, ETC.				
1892,	5	533 68	......	......
1893,	5	527 72	—5 96	......
1894,	5	444 05	—83 67	......
1895,	5	538 62	+94 57	......
1896,	5	498 88	—39 74	......
1897,	5	465 15	—33 73	......
1898,	5	499 74	+34 59	—33 94
METAL AND METALLIC GOODS.				
1892,	8	482 84	......	......
1893,	8	455 02	—27 82	......
1894,	8	450 35	—4 67	......
1895,	8	487 02	+36 67	......
1896,	8	495 51	+8 49	......
1897,	8	470 41	—25 10	......
1898,	8	473 88	+ 347	—8 96

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$598 90	......	......
1893,	14	560 70	—$38 20	......
1894,	14	477 72	—82 98	......
1895,	14	558 79	+81 07	......
1896,	14	528 21	—30 58	......
1897,	14	537 76	+9 55	......
1898,	14	576 74	+38 98	—$22 16
ENGINES AND BOILERS.				
1892,	6	536 72	......	......
1893,	6	510 03	—26 69	......
1894,	6	528 49	+18 46	......
1895,	6	533 66	+5 17	......
1896,	6	488 16	—45 50	......
1897,	6	458 24	—29 92	......
1898,	6	503 87	+45 63	—32 85
BOILERS.				
1892,	7	419 41	......	......
1893,	7	393 67	—25 74	......
1894,	7	319 23	—74 44	......
1895,	7	364 61	+45 38	......
1896,	7	310 13	—54 48	......
1897,	7	363 29	+53 16	......
1898,	7	368 12	+4 83	—51 29

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	$437 69	......	......
1893,	4	425 86	—$11 83	......
1894,	4	405 31	—20 55	......
1895,	4	464 32	+59 01	......
1896,	4	397 03	—67 29	......
1897,	4	436 94	+39 91	......
1898,	4	440 26	+3 32	+$2 57
CAR SPRINGS.				
1892,	1	675 36	......	......
1893,	1	558 81	—116 55	......
1894,	1	459 85	—98 96	......
1895,	1	631 36	+171 51	......
1896,	1	661 14	+29 78	......
1897,	1	553 15	—7 99	......
1898,	1	679 73	+126 58	+4 37
CAR COUPLERS.				
1892,	1	545 00	......	......
1893,	1	493 64	—51 36	......
1894,	1	386 96	—106 68	......
1895,	1	502 94	+115 98	......
1896,	1	446 90	—56 04	......
1897,	1	457 32	+10 42	......
1898,	1	449 43	—7 89	—95 57

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	$533 11	......	......
1893,	8	502 39	—$30 72	......
1894,	8	456 65	—45 74	......
1895,	8	531 01	+74 36	......
1896,	8	479 81	—51 20	......
1897,	8	501 87	+22 06	......
1898,	8	535 49	+33 62	+$2 38
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	462 70	......	......
1893,	17	368 66	—94 04	......
1894,	17	430 73	+62 07	......
1895,	17	354 95	—75 78	......
1896,	17	391 06	+36 11	......
1897,	17	452 19	+61 13	......
1898,	17	453 33	+1 14	—9 37
SHIP BUILDING.				
1892,	1	550 80	......	......
1893,	1	556 49	+5 69	......
1894,	1	574 32	+17 83	......
1895,	1	567 91	—6 41	......
1896,	1	552 52	-15 39	......
1897,	1	555 68	+3 16	......
1898,	1	490 73	—64 95	—60 07

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	$386 19	......	......
1893,	2	345 06	—$41 13	......
1894,	2	346 99	+1 93	......
1895,	2	357 77	+10 78	......
1896,	2	349 25	—8 52	......
1897,	2	364 33	+14 08	......
1898,	2	378 08	+13 75	—$8 11
PIANOS AND ORGANS.				
1892,	2	336 16	......	......
1893,	2	312 24	—23 92	......
1894,	2	285 10	—27 14	......
1895,	2	349 61	+64 51	......
1896,	2	407 87	+58 26	......
1897,	2	420 02	+12 15	......
1898,	2	425 41	+5 39	+89 25
RUBBER BOOTS AND SHOES.				
1892,	1	436 25	......	......
1893,	1	415 63	—20 62	......
1894,	1	366 16	—49 47	......
1895,	1	378 65	+12 49	......
1896,	1	338 66	—39 99	......
1897,	1	276 37	—62 29	......
1898,	1	349 43	+73 06	—86 82

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARBONS.				
1892,	1	$520 83	......	......
1893,	1	540 00	+$19 17	......
1894,	1	527 28	—12 72	......
1895,	1	571 43	+44 15	......
1896,	1	480 00	—91 43	......
1897,	1	480 00	......	......
1898,	1	480 00	......	—$40 83
CARPETS.				
1892,	24	381 24	......	......
1893,	24	368 45	—12 79	......
1894,	24	355 30	—13 15	......
1895,	24	374 48	+19 18	......
1896,	24	341 41	—33 07	......
1897,	24	360 88	+19 47	......
1898,	24	356 23	—4 65	—25 01
WOOLEN YARNS.				
1892,	10	283 03	......	......
1893,	10	291 53	+8 50	......
1894,	10	249 61	—41 92	......
1895,	10	262 38	+12 77	......
1896,	10	306 83	+44 45	......
1897,	10	260 71	—46 12	......
1898,	10	305 26	+44 55	+22 23

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	$326 53	......	......
1893,	3	306 36	—$20 17	......
1894,	3	262 90	—43 46	......
1895,	3	305 46	+42 56	......
1896,	3	288 52	—16 94	......
1897,	3	305 92	+17 40	......
1898,	3	307 31	+1 39	—$19 22
WORSTED YARNS.				
1892,	3	297 58	......	......
1893,	3	299 20	+1 62	......
1894,	3	279 20	—20 00	......
1895,	3	277 22	—1 98	......
1896,	3	236 21	—41 01	......
1897,	3	276 54	+40 33	......
1898,	3	245 88	—30 66	—51 70
MISCELLANEOUS YARNS.				
1892,	9	389 80	......	......
1893,	9	316 07	—73 73	......
1894,	9	330 31	+14 24	......
1895,	9	358 57	+28 26	......
1896,	9	344 51	—14 06	......
1897,	9	371 72	+27 21	......
1898,	9	339 05	—32 67	—50 75

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	$350 51	......	......
1893,	16	310 19	—$40 32	......
1894,	16	286 00	—24 19	......
1895,	16	313 49	+27 49	......
1896,	16	304 88	—8 61	......
1897,	16	330 75	+25 87	......
1898,	16	334 65	+3 90	—$15 86
COTTON GOODS.				
1892,	17	384 50	......	......
1893,	17	306 30	—78 28	......
1894,	17	317 75	+11 45	......
1895,	17	332 19	+14 44	......
1896,	17	273 27	—58 92	......
1897,	17	299 84	+26 57	......
1898,	17	323 42	+23 58	—61 08
COTTON AND WOOLEN GOODS.				
1892,	12	346 10	......	......
1893,	12	310 00	—36 10	......
1894,	12	290 19	—19 81	......
1895,	12	306 62	+16 43	......
1896.	12	286 72	—19 90	......
1897,	12	309 46	+22 74	......
1898,	12	315 53	+6 07	—30 57

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WORSTED GOODS.				
1892,	3	$362 87	......	......
1893,	3	351 18	—$11 69	......
1894,	3	344 35	—6 83	......
1895,	3	352 16	+7 81	......
1896,	3	340 08	—12 08	......
1897,	3	420 51	+80 43	......
1898,	3	418 78	—1 73	+$55 91
KNIT GOODS.				
1892,	5	289 84	......	......
1893,	5	262 53	—27 31	......
1894,	5	254 93	—7 60	......
1895,	5	274 82	+19 89	......
1896,	5	234 38	—40 44	......
1897,	5	245 16	+10 78	......
1898,	5	252 23	+7 07	—37 61
CHENILLE GOODS.				
1892,	5	411 21	......	......
1893,	5	377 93	—33 28	......
1894,	5	376 55	—1 38	......
1895,	5	387 14	+10 59	......
1896,	5	364 13	—23 01	......
1897,	5	373 04	+8 91	......
1898,	5	356 20	—16 84	—55 01

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING, 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
MIXED TEXTILES.				
1892,	9	$351 81	......	......
1893,	9	308 40	—$43 41	......
1894,	9	287 86	—20 54	......
1895,	9	303 30	+75 44	......
1896,	9	295 37	—7 93	......
1897,	9	292 18	—3 19	......
1898,	9	298 23	+6 05	—$53 58
TAPESTRY AND TABLE COVERS.				
1892,	3	420 53	......	......
1893,	3	312 98	—107 55	......
1894.	3	400 53	+87 55	......
1895,	3	382 64	—17 89	......
1896,	3	389 07	+6 43	......
1897,	3	410 37	+21 30	......
1898,	3	390 10	—20 27	—30 43
HOSIERY.				
1892,	13	261 85	......	......
1893,	13	249 64	—12 21	......
1894,	13	219 16	—30 48	......
1895,	13	259 50	+40 34	......
1896,	13	233 41	—26 09	......
1897,	13	256 76	+23 35	......
1898,	13	251 37	—5 39	—10 48

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
HOSIERY AND KNIT GOODS.				
1892,	3	$331 61	......	......
1893,	3	306 32	—$25 29	......
1894,	3	319 67	+13 35	......
1895,	3	285 81	—33 86	......
1896,	3	232 27	—53 54	......
1897,	3	276 78	+44 51	......
1898,	3	284 76	+7 98	—$46 85
SILK BROAD GOODS.				
1892,	4	247 96	......	......
1893,	4	227 45	—20 51	......
1894,	4	250 43	+22 98	......
1895,	4	234 54	—15 89	......
1896,	4	254 56	+20 02	......
1897,	4	237 23	—17 33	......
1898,	4	244 27	+7 04	—3 69
RIBBONS.				
892,	1	341 68	......	......
1893,	1	273 63	—68 05	......
1894,	1	290 98	+17 35	......
1895,	1	365 53	+74 55	......
1896,	1	320 00	—45 53	......
1897,	1	407 14	+87 14	......
1898,	1	334 75	—72 39	—6 93

AVERAGE DAILY WAGE.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the average daily wage of employes, skilled and unskilled, in the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	$1 49	......	......
1893,	13	1 56	+$0 07	......
1894,	13	1 26	—30	......
1895,	13	1 48	+22	......
1896,	13	1 44	—04	......
1897,	13	1 31	—13	......
1898,	13	1 30	—01	—$0 19
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	1 79	......	......
1893,	32	1 78	—01	......
1894,	32	1 61	—17	......
1895,	32	1 62	+01	......
1896,	32	1 66	+04	......
1897,	32	1 55	—11	......
1898,	32	1 55	......	—24
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	2 18	......	......
1893,	14	2 38	+20	......

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	$1 97	—41	......
1895,	14	1 82	—15	......
1896,	14	2 05	+23	......
1897,	14	1 82	—23	......
1898,	14	1 80	—02	—38
PLATE AND BAR.				
1892,	3	2 06	......	......
1893,	3	2 49	+43	......
1894,	3	1 73	—76	......
1895,	3	1 48	—25	......
1896,	3	2 01	+53	......
1897,	3	1 62	—39	......
1898,	3	1 52	—10	—54
STEEL.				
1892,	13	1 80	......	......
1893,	13	1 83	+03	......
1894,	13	1 69	—14	......
1895,	13	1 73	+04	......
1896,	13	2 08	+35	......
1897,	13	1 75	—33	......
1898.	13	1 70	—05	—10

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	$1 95	......	......
1893,	4	1 89	—06	......
1894,	4	1 63	—26	......
1895,	4	1 78	+15	......
1896,	4	1 81	+03	......
1897,	4	1 81	......	......
1898,	4	1 76	—05	—19
IRON FORGING.				
1892,	4	2 48	......	......
1893,	4	2 45	—03	......
1894,	4	1 71	—74	......
1895,	4	1 81	+10	......
1896,	4	2 11	+30	......
1897,	4	1 98	—13	......
1898,	4	1 87	—11	—61
NAILS AND SPIKES.				
1892,	10	1 68	......	......
1893,	10	1 73	+05	......
1894.	10	1 47	—26	......
1895,	10	1 60	+13	......
1896,	10	1 36	—24	......
1897,	10	1 42	+06	......
1898,	10	1 29	—13	—39

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	3	$1 26	......	......
1893,	2	1 11	—15	......
1894,	2	1 30	+19	......
1895,	2	1 38	+08	......
1896,	2	1 34	—04	......
1897,	2	1 14	—20	......
1898,	2	1 26	+12	......
PIPES AND TUBES.				
1892,	4	1 61	......	......
1893,	4	1 52	—09	......
1894,	4	1 52	......	......
1895,	4	1 54	+02	......
1896,	4	1 42	—12	......
1897,	4	1 70	+28	......
1898,	4	1 68	—02	+07
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	1 84	......	......
1893,	25	1 77	—07	......
1894,	25	1 79	+02	......
1895,	25	1 71	—08	......
1896,	25	1 71	......	......
1897,	25	1 69	—02	......
1898,	25	1 76	+07	—08

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$1 78	......	......
1893,	9	1 82	+04	......
1894,	9	2 02	+20	......
1895,	9	1 96	—06	......
1896,	9	1 94	—02	......
1897,	9	1 90	—04	......
1898,	9	1 85	—05	+07
HARDWARE.				
1892,	4	1 32	......	......
1893,	4	1 51	+19	......
1894,	4	1 65	+14	......
1895,	4	1 43	—22	......
1896,	4	1 33	—10	......
1897,	4	1 35	+02	......
1898,	4	1 46	+11	+14
MALLEABLE IRON.				
1892,	2	1 71	......	......
1893,	2	1 77	+06	......
1894,	2	1 79	+02	......
1895,	2	1 86	+07	......
1896,	2	1 72	—14	......
1897,	2	1 77	+05	......
1898,	2	1 68	—09	—03

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$1 23	......	......
1893,	1	1 33	+10	......
1894,	1	1 37	+04	......
1895,	1	1 48	+11	......
1896,	1	1 52	+04	......
1897,	1	1 57	+05	......
1898,	1	1 22	—35	—01
SAWS, EDGE TOOLS, ETC.				
1892,	5	1 77	......	......
1893,	5	1 86	+09	......
1894,	5	1 55	—31	......
1895,	5	1 83	+28	......
1896,	5	1 79	—04	......
1897,	5	1 70	—09	......
1898,	5	1 67	—03	—10
METAL AND METALLIC GOODS.				
1892,	8	1 50	......	......
1893,	8	1 61	+11	......
1894,	8	1 57	—04	......
1895,	8	1 56	—01	......
1896,	8	1 63	+07	......
1897,	8	1 63	......	......
1898,	8	1 53	—10	+03

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$1 96	......	......
1893,	14	1 97	+01	......
1894,	14	1 79	—18	......
1895,	14	1 91	+12	......
1896,	14	1 78	—13	......
1897,	14	1 82	+04	......
1898,	14	1 92	+10	—04
ENGINES AND BOILERS.				
1892,	6	1 66	......	......
1893,	6	1 76	+10	......
1894,	6	1 77	+01	......
1895,	6	1 83	+06	......
1896,	6	1 67	—16	......
1897,	6	1 54	—13	......
1898,	6	1 66	+12	......
BOILERS.				
1892,	7	1 51	......	......
1893,	7	1 57	+06	......
1894,	7	1 45	—12	......
1895,	7	1 78	+33	......
1896,	7	1 48	—30	......
1897,	7	1 47	—01	......
1898,	7	1 33	—14	—18

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	$1 41	......	......
1893,	4	1 40	—01	......
1894,	4	1 33	—07	......
1895,	4	1 53	+20	......
1896,	4	1 39	—14	......
1897,	4	1 43	+04	......
1898,	4	1 45	+02	+04
CAR SPRINGS.				
1892,	1	2 17	......	......
1893,	1	1 79	—38	......
1894,	1	1 80	+01	......
1895,	1	2 28	+48	......
1896,	1	2 59	+31	......
1897,	1	2 27	—32	......
1898,	1	2 38	+11	+21
CAR COUPLERS.				
1892,	1	1 76	......	......
1893,	1	1 99	+23	......
1894,	1	1 41	—58	......
1895,	1	1 77	+36	......
1896,	1	1 47	—30	......
1897,	1	1 51	+04	......
1898,	1	1 48	—03	—28

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	$1 77	......	......
1893,	8	1 78	+01	......
1894,	8	1 75	—03	......
1895,	8	1 75	......	......
1896,	8	1 69	—06	......
1897,	8	1 74	+05	......
1898,	8	1 80	+06	+03
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	1 83	......	......
1893,	17	1 89	+06	......
1894,	17	1 65	—24	......
1895,	17	1 47	—18	......
1896,	17	1 71	+24	......
1897,	17	1 69	—02	......
1898,	17	1 67	—02	—16
SHIP BUILDING.				
1892,	1	1 78	......	......
1893,	1	1 80	+02	......
1894,	1	1 86	+06	......
1895,	1	1 85	—01	......
1896,	1	1 80	—05	......
1897,	1	1 79	—01	......
1898,	1	1 60	—19	—18

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	$1 29	......	......
1893,	2	1 25	—04	......
1894,	2	1 15	—10	......
1895,	2	1 16	+01	......
1896,	2	1 19	+03	......
1897,	2	1 23	+04	......
1898,	2	1 23	......	—06
PIANOS AND ORGANS.				
1892,	2	1 10	......	......
1893,	2	1 11	+01	......
1894,	2	1 10	—01	......
1895,	2	1 20	+10	......
1896,	2	1 37	+17	......
1897,	2	1 41	+04	......
1898,	2	1 44	+03	+34
RUBBER BOOTS AND SHOES.				
1892,	1	1 75	......	......
1893,	1	1 80	+05	......
1894,	1	1 48	—32	......
1895,	1	1 40	—08	......
1896,	1	1 39	—01	......
1897,	1	1 24	—15	......
1898,	1	1 43	+19	—32

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
CARBONS.				
1892,	1	$1 73	......	......
1893,	1	1 80	+07	......
1894,	1	1 76	—04	......
1895,	1	1 90	+14	......
1896,	1	1 55	—35	......
1897,	1	1 55	......	......
1898,	1	1 55	......	—18
CARPETS.				
1892,	24	1 36	......	......
1893,	24	1 69	+33	......
1894,	24	1 37	—32	......
1895,	24	1 35	—02	......
1896,	24	1 30	—05	......
1897,	24	1 24	—06	......
1898,	24	1 25	+01	—11
WOOLEN YARNS.				
1892,	10	95	......	......
1893,	10	1 19	+24	......
1894,	10	90	—29	......
1895,	10	89	—01	......
1896,	10	1 14	+25	......
1897,	10	88	—26	......
1898,	10	1 11	+23	+16

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	$1 10	......	......
1893,	3	1 23	+13	......
1894,	3	1 01	—22	......
1895,	3	1 06	+05	......
1896,	3	1 04	—02	......
1897,	3	1 03	—01	......
1898	3	1 04	+01	—06
WORSTED YARNS.				
1892,	3	99	......	......
1893,	3	1 50	+51	......
1894,	3	1 01	—49	......
1895,	3	92	—09	......
1896,	3	96	+04	......
1897,	3	96	......	......
1898,	3	96	......	—03
MISCELLANEOUS YARNS.				
1892,	9	1 29	......	......
1893,	9	1 25	—04	......
1894,	9	1 26	+01	......
1895,	9	1 26	......	......
1896,	9	1 61	+35	......
1897,	9	1 31	—30	......
1898,	9	1 29	—02	......

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	$1 17	......	......
1893,	16	1 27	+10	......
1894,	16	1 03	—24	......
1895,	16	1 05	+02	......
1896,	16	1 11	+06	......
1897,	16	1 14	+03	......
1898,	16	1 16	+02	—01
COTTON GOODS.				
1892,	17	1 27	......	......
1893,	17	1 23	—04	......
1894,	17	1 29	+06	......
1895,	17	1 16	—13	......
1896,	17	1 06	—10	......
1897,	17	1 02	—04	......
1898,	17	1 09	+07	—18
COTTON AND WOOLEN GOODS.				
1892	12	1 15	......	......
1893,	12	1 22	+07	......
1894,	12	1 12	—10	......
1895,	12	1 16	+04	......
1896,	12	1 30	+14	......
1897,	12	1 15	—15	......
1898,	12	1 16	+01	+01

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WORSTED GOODS.				
1892,	3	$1 17	......	......
1893,	3	1 58	+41	......
1894,	3	1 45	—13	......
1895,	3	1 33	—12	......
1896,	3	1 55	+22	......
1897,	3	1 46	—09	......
1898,	3	1 53	+07	+36
KNIT GOODS.				
1892,	5	93	......	......
1893,	5	94	+01	......
1894,	5	1 00	+06	......
1895,	5	97	—03	......
1896,	5	90	—07	......
1897,	5	91	+01	......
1898,	5	1 00	+09	+07
CHENILLE GOODS.				
1892,	5	1 28	......	......
1893,	5	1 28	......	......
1894,	5	1 26	—02	......
1895,	5	1 29	+03	......
1896,	5	1 25	—04	......
1897,	5	1 24	—01	......
1898,	5	1 18	—06	—10

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
MIXED TEXTILES.				
1892,	9	$1 16	......	......
1893,	9	1 06	—10	......
1894,	9	1 00	—06	......
1895,	9	1 02	+02	......
1896,	9	1 05	+03	......
1897,	9	1 04	—01	......
1898,	9	99	—05	—17
TAPESTRY AND TABLE COVERS.				
1892,	3	1 39	......	......
1893,	3	1 08	—31	......
1894,	3	1 33	+25	......
1895,	3	1 30	—03	......
1896,	3	1 34	+04	......
1897,	3	1 41	+07	......
1898,	3	1 34	—07	—05
HOSIERY.				
1892,	13	88	......	......
1893,	13	96	+08	......
1894,	13	80	—16	......
1895,	13	88	+08	......
1896,	13	81	—07	......
1897,	13	89	+08	......
1898,	13	90	+01	+02

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896. 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
HOSIERY AND KNIT GOODS.				
1892	3	$1 11	......	......
1893,	3	1 05	—06	......
1894,	3	1 07	+02	......
1895,	3	1 05	—02	......
1896,	3	80	—25	......
1897,	3	92	+12	......
1898,	3	95	+03	—16
SILK BROAD GOODS.				
1892,	4	81	......	......
1893,	4	92	+11	......
1894,	4	86	—06	......
1895,	4	77	—09	......
1896,	4	93	+16	......
1897,	4	78	—15	......
1898,	4	84	+06	+03
RIBBONS.				
1892,	1	1 11	......	......
1893,	1	1 11	......	......
1894,	1	96	—15	......
1895,	1	1 21	+25	......
1896,	1	1 16	—05	......
1897,	1	1 36	+20	......
898,	1	1 12	—24	+01

VALUE OF PRODUCT.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1806, 1897 AND 1898.

(In this table the value of product by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	$10,597,537	....	....
1893,	13	8,026,593	—$2,570,944	....
1894,	13	5,580,847	—2,445,746	....
1895,	13	8,220,266	+2,639,419	....
1896,	13	7,207,417	—1,012,849	....
1897,	13	6,043,503	—1,163,914	....
1898,	13	8,307,428	+2,263,925	—$2,290,109
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	91,945,908	....	....
1893,	32	86,050,594	—5,895,314	....
1894,	32	72,055,767	—13,994,827	....
1895,	32	84,689,471	+12,633,704	....
1896,	32	88,725,133	+4,035,662	....
1897,	32	93,540,222	+4,815,089	....
1898,	32	111,954,871	+18,414,649	+20,008,963
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	11,680,127	....	....
1893,	14	9,584,689	—2,095,438	....

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	$7,798,069	—$1,786,620	....
1895,	14	10,604,551	+2,806,482	....
1896,	14	8,740,308	—1,864,243	....
1897,	14	9,668,034	+927,726	....
1898,	14	13,760,272	+4,092,238	+$2,080,145
PLATE AND BAR.				
1892,	3	4,991,702	....	....
1893,	3	3,648,252	—1,343,450	....
1894,	3	2,505,387	—1,142,865	....
1895,	3	3,059,825	+554,438	....
1896,	3	2,822,922	—236,903	....
1897,	3	3,162,028	+339,106	....
1898,	3	3,018,260	—143,768	—1,973,442
STEEL.				
1892,	13	24,711,579	....	....
1893,	13	18,805,567	—5,906,012	....
1894,	13	15,781,892	—3,023,675	....
1895,	13	20,687,948	+4,906,056	....
1896,	13	16,603,033	—4,084,915	....
1897,	13	17,454,677	+851,644	....
1898,	13	20,327,249	+2,872,572	—4,384,330

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	$3,040,397	....	....
1893,	4	2,024,821	—$1,015,576	....
1894,	4	1,407,416	—617,405	....
1895,	4	1,939,661	+532,245	....
1896,	4	2,236,372	+296,711	....
1897,	4	1,847,959	—388,413	....
1898,	4	2,775,266	+927,307	—$265,131
IRON FORGING.				
1892,	4	1,053,091	....	....
1893,	4	789,496	—263,595	....
1894,	4	604,106	—185,390	....
1895,	4	779,569	+175,463	....
1896,	4	739,985	—39,584	....
1897,	4	691,901	—48,084	....
1898,	4	1,033,335	+341,434	—19,756
NAILS AND SPIKES.				
1892,	10	4,827,506	....	....
1893,	10	3,942,713	—884,793	....
1894,	10	3,275,789	—666,924	....
1895,	10	3,630,012	+354,223	....
1896,	10	2,124,658	—1,505,354	....
1897,	10	2,897,297	+772,639	....
1898,	10	2,494,289	—403,008	—2,333,217

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	$1,152,138	....	....
1893,	2	1,007,993	—$144,145	....
1894,	2	844,782	—163,211	....
1895,	2	1,107,466	+262,684	....
1896,	2	845,826	—261,640	....
1897,	2	858,788	+12,962	....
1898,	2	1,042,896	+184,108	—$109,242
PIPES AND TUBES.				
1892,	4	2,241,867	....	....
1893,	4	2,107,604	—134,263	....
1894,	4	1,927,748	—179,856	....
1895,	4	2,527,348	+599,600	....
1896,	4	2,937,296	+409,948	....
1897,	4	2,701,883	—235,413	....
1898,	4	3,463,901	+762,018	+1,222,034
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	6,311,627	....	....
1893,	25	4,628,768	—1,682,859	....
1894,	25	3,699,595	—929,173	....
1895,	25	4,342,835	+643,240	....
1896,	25	3,515,683	—827,152	....
1897,	25	4,055,129	+539,446	....
1898,	25	4,927,626	+872,497	—1,384,001

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$1,639,839	....	....
1893,	9	1,525,391	—$114,448	....
1894,	9	1,218,872	—306,519	....
1895,	9	1,431,181	+212,309	....
1896,	9	1,383,157	—48,024	....
1897,	9	1,414,639	+31,482	....
1898,	9	1,461,366	+46,727	—$178,473
HARDWARE.				
1892,	4	1,242,721	....	....
1893,	4	1,145,987	—96,734	....
1894,	4	1,040,023	—105,964	....
1895,	4	1,255,661	+215,638	....
1896,	4	1,129,798	—125,863	....
1897,	4	1,078,827	—50,971	....
1898,	4	1,407,967	+329,140	+165,246
MALLEABLE IRON.				
1892,	2	452,363	....	....
1893,	2	362,608	—89,755	....
1894,	2	296,371	—66,237	....
1895,	2	367,157	+70,786	....
1896,	2	414,786	+47,629	....
1897,	2	404,410	—10,376	....
1898,	2	704,698	+300,288	+252,335

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$125,000	....	....
1893,	1	80,000	—$45,000	....
1894,	1	60,000	—20,000	....
1895,	1	89,700	+29,700	....
1896,	1	75,000	—14,700	....
1897,	1	62,000	—13,000	....
1898,	1	90,000	+28,000	—$35,000
SAWS, EDGE TOOLS, ETC.				
1892,	5	3,479,164	....	....
1893,	5	3,203,476	—275,688	....
1894,	5	2,402,820	—800,656	....
1895,	5	2,914,503	+511,683	....
1896,	5	2,731,311	—183,192	....
1897,	5	2,527,680	—203,631	....
1898,	5	3,238,334	+710,654	—240,830
METAL AND METALLIC GOODS.				
1892,	8	3,027,395	....	....
1893,	8	2,526,382	—501,013	....
1894,	8	2,060,465	—465,917	....
1895,	8	2,831,319	+770,854	....
1896,	8	2,401,636	—429,683	....
897,	8	2,341,075	—60,561	....
898,	8	3,070,810	+729,735	+43,415

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value or product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$17,176,167	....	....
1893,	14	16,941,708	—$234,459	....
1894,	14	9,629,617	—7,312,091	....
1895,	14	12,709,222	+3,079,605	....
1896,	14	14,348,550	+1,639,328	....
1897,	14	14,327,515	—21,035	....
1898,	14	19,449,658	+5,122,143	+$2,273,491
ENGINES AND BOILERS.				
1892,	6	2,854,422	....	....
1893,	6	2,296,655	—557,767	....
1894,	6	1,625,120	—671,535	....
1895,	6	1,923,041	+297,921	....
1896,	6	2,070,170	+147,129	....
1897,	6	1,778,989	—291,181	....
1898,	6	2,126,376	+347,387	—728,046
BOILERS.				
1892,	7	1,768,039	....	....
1893,	7	1,514,899	—253,140	....
1894,	7	1,046,140	—468,759	....
1895,	7	991,505	—54,635	....
1896,	7	1,040,575	+49,070	....
1897,	7	887,529	—153,046	....
1898,	7	1,444,757	+557,228	—323,282

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE OF EMPLOYES, SKILLED AND UNSKILLED, IN SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896. 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
HOSIERY AND KNIT GOODS.				
1892	3	$1 11	......	......
1893,	3	1 05	—06	......
1894,	3	1 07	+02	......
1895,	3	1 05	—02	......
1896,	3	80	—25	......
1897,	3	92	+12	......
1898,	3	95	+03	—16
SILK BROAD GOODS.				
1892,	4	81	......	......
1893,	4	92	+11	......
1894,	4	86	—06	......
1895,	4	77	—09	......
1896,	4	93	+16	......
1897,	4	78	—15	......
1898,	4	84	+06	+03
RIBBONS.				
1892,	1	1 11	......	......
1893,	1	1 11	......	......
1894,	1	96	—15	......
1895,	1	1 21	+25	......
1896,	1	1 16	—05	......
1897,	1	1 36	+20	......
1898,	1	1 12	—24	+01

VALUE OF PRODUCT.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the value of product by the same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892,	13	$10,597,537	....	....
1893,	13	8,026,593	—$2,570,944	....
1894,	13	5,580,847	—2,445,746	....
1895,	13	8,220,266	+2,639,419	....
1896,	13	7,207,417	—1,012,849	....
1897,	13	6,043,503	—1,163,914	....
1898,	13	8,307,428	+2,263,925	—$2,290,109
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	91,945,908	....	....
1893,	32	86,050,594	—5,895,314	....
1894,	32	72,055,767	—13,994,827	....
1895,	32	84,689,471	+12,633,704	....
1896,	32	88,725,133	+4,035,662	....
1897,	32	93,540,222	+4,815,089	....
1898,	32	111,954,871	+18,414,649	+20,008,963
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	11,680,127	....	....
1893,	14	9,584,689	—2,095,438	....

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES—Continued.				
1894,	14	$7,798,069	—$1,786,620	....
1895,	14	10,604,551	+2,806,482	....
1896,	14	8,740,308	—1,864,243	....
1897,	14	9,668,034	+927,726	....
1898,	14	13,760,272	+4,092,238	+$2,080,145
PLATE AND BAR.				
1892,	3	4,991,702	....	....
1893,	3	3,648,252	—1,343,450	....
1894,	3	2,505,387	—1,142,865	....
1895,	3	3,059,825	+554,438	....
1896,	3	2,822,922	—236,903	....
1897,	3	3,162,028	+339,106	....
1898,	3	3,018,260	—143,768	—1,973,442
STEEL.				
1892,	13	24,711,579	....	....
1893,	13	18,805,567	—5,906,012	....
1894,	13	15,781,892	—3,023,675	....
1895,	13	20,687,948	+4,906,056	....
1896,	13	16,603,033	—4,084,915	....
1897,	13	17,454,677	+851,644	....
1898,	13	20,327,249	+2,872,572	—4,384,330

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	$3,040,397	....	....
1893,	4	2,024,821	—$1,015,576	....
1894,	4	1,407,416	—617,405	....
1895,	4	1,939,661	+532,245	....
1896,	4	2,236,372	+296,711	....
1897,	4	1,847,959	—388,413	....
1898,	4	2,775,266	+927,307	—$265,131
IRON FORGING.				
1892,	4	1,053,091	....	....
1893,	4	789,496	—263,595	....
1894,	4	604,106	—185,390	....
1895,	4	779,569	+175,463	....
1896,	4	739,985	—39,584	....
1897,	4	691,901	—48,084	....
1898,	4	1,033,335	+341,434	—19,756
NAILS AND SPIKES.				
1892,	10	4,827,506	....	....
1893,	10	3,942,713	—884,793	....
1894,	10	3,275,789	—666,924	....
1895,	10	3,630,012	+354,223	....
1896,	10	2,124,658	—1,505,354	....
1897,	10	2,897,297	+772,639	....
1898,	10	2,494,289	—403,008	—2,333,217

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892,	2	$1,152,138	....	....
1893,	2	1,007,993	—$144,145	....
1894,	2	844,782	—163,211	....
1895,	2	1,107,466	+262,684	....
1896,	2	845,826	—261,640	....
1897,	2	858,788	+12,962	....
1898,	2	1,042,896	+184,108	—$109,242
PIPES AND TUBES.				
1892,	4	2,241,867	....	....
1893,	4	2,107,604	—134,263	....
1894,	4	1,927,748	—179,856	....
1895,	4	2,527,348	+599,600	....
1896,	4	2,937,296	+409,948	....
1897,	4	2,701,883	—235,413	....
1898,	4	3,463,901	+762,018	+1,222,034
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	6,311,627	....	....
1893,	25	4,628,768	—1,682,859	....
1894,	25	3,699,595	—929,173	....
1895,	25	4,342,835	+643,240	....
1896,	25	3,515,683	—827,152	....
1897,	25	4,055,129	+539,446	....
1898,	25	4,927,626	+872,497	—1,384,001

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$1,639,839	....	....
1893,	9	1,525,391	—$114,448	....
1894,	9	1,218,872	—306,519	....
1895,	9	1,431,181	+212,309	....
1896,	9	1,383,157	—48,024	....
1897,	9	1,414,639	+31,482	....
1898,	9	1,461,366	+46,727	—$178,473
HARDWARE.				
1892,	4	1,242,721	....	....
1893,	4	1,145,987	—96,734	....
1894,	4	1,040,023	—105,964	....
1895,	4	1,255,661	+215,638	....
1896,	4	1,129,798	—125,863	....
1897,	4	1,078,827	—50,971	....
1898,	4	1,407,967	+329,140	+165,246
MALLEABLE IRON.				
1892,	2	452,363	....	....
1893,	2	362,608	—89,755	....
1894,	2	296,371	—66,237	....
1895,	2	367,157	+70,786	....
1896,	2	414,786	+47,629	....
1897,	2	404,410	—10,376	....
1898,	2	704,698	+300,288	+252,335

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$125,000	....	....
1893,	1	80,000	—$45,000	....
1894,	1	60,000	—20,000	....
1895,	1	89,700	+29,700	....
1896,	1	75,000	—14,700	....
1897,	1	62,000	—13,000	....
1898,	1	90,000	+28,000	—$35,000
SAWS, EDGE TOOLS, ETC.				
1892,	5	3,479,164	....	....
1893,	5	3,203,476	—275,688	....
1894,	5	2,402,820	—800,656	....
1895,	5	2,914,503	+511,683	....
1896,	5	2,731,311	—183,192	....
1897,	5	2,527,680	—203,631	....
1898,	5	3,238,334	+710,654	—240,830
METAL AND METALLIC GOODS.				
1892,	8	3,027,395	....	....
1893,	8	2,526,382	—501,013	....
1894,	8	2,060,465	—465,917	....
1895,	8	2,831,319	+770,854	....
1896,	8	2,401,636	—429,683	....
1897,	8	2,341,075	—60,561	....
1898,	8	3,070,810	+729,735	+43,415

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$17,176,167	....	....
1893,	14	16,941,708	—$234,459	....
1894,	14	9,629,617	—7,312,091	....
1895,	14	12,709,222	+3,079,605	....
1896,	14	14,348,550	+1,639,328	....
1897,	14	14,327,515	—21,035	....
1898,	14	19,449,658	+5,122,143	+$2,273,491
ENGINES AND BOILERS.				
1892,	6	2,854,422	....	....
1893,	6	2,296,655	—557,767	....
1894,	6	1,625,120	—671,535	....
1895,	6	1,923,041	+297,921	....
1896,	6	2,070,170	+147,129	....
1897,	6	1,778,989	—291,181	....
1898,	6	2,126,376	+347,387	—728,046
BOILERS.				
1892,	7	1,768,039	....	....
1893,	7	1,514,899	—253,140	....
1894,	7	1,046,140	—468,759	....
1895,	7	991,505	—54,635	....
1896,	7	1,040,575	+49,070	....
1897,	7	887,529	—153,046	....
1898,	7	1,444,757	+557,228	—323,282

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	$2,179,715	....	....
1893,	4	2,009,234	—$170,481	....
1894,	4	1,292,171	—717,063	....
1895,	4	1,793,317	+501,146	....
1896,	4	1,332,526	—460,791	....
1897,	4	1,181,470	—151,056	....
1898,	4	1,651,568	+470,098	—$528,147
CAR SPRINGS.				
1892,	1	1,139,220	....	....
1893,	1	704,754	—434,466	....
1894,	1	331,010	—373,744	....
1895,	1	496,984	+165,974	....
1896,	1	517,221	+20,237	....
1897,	1	428,271	—88,950	....
1898,	1	652,635	+224,364	—486,585
CAR COUPLERS.				
1892,	1	1,455,135	....	....
1893,	1	1,009,284	—445,851	....
1894,	1	510,732	—498,552	....
1895,	1	985,258	+474,526	....
1896,	1	1,349,321	+364,063	....
1897,	1	1,052,857	—296,464	....
1898,	1	1,404,617	+351,760	—50,518

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—), 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	$7,920,412	....	....
1893,	8	6,054,890	—$1,865,522	....
1894,	8	4,090,667	—1,964,223	....
1895,	8	4,291,747	+201,080	....
1896,	8	4,208,607	—83,140	....
1897,	8	3,265,217	—943,390	....
1898,	8	4,200,831	+935,614	—$3,719,581
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	5,919,793	....	....
1893,	17	4,523,986	—1,395,807	....
1894,	17	4,620,213	+96,227	....
1895,	17	4,306,614	—313,599	....
1896,	17	3,969,520	—337,094	....
1897,	17	4,941,382	+71,862	....
1898,	17	5,690,250	+748,868	—229,543
SHIP BUILDING.				
1892,	1	501,753	....	....
1893,	1	832,720	+330,967	....
1894,	1	506,192	—326,528	....
1895,	1	426,303	—79,889	....
1896,	1	686,720	+260,417	....
1897,	1	476,868	—209,852	....
1898,	1	1,217,489	+740,621	+715,736

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	$650,744	....	....
1893,	2	558,193	—$92,551	....
1894,	2	529,528	—28,665	....
1895,	2	554,054	+24,526	....
1896,	2	524,534	—29,520	....
1897,	2	513,293	—11,241	....
1898,	2	600,649	+87,356	—$50,095
PIANOS AND ORGANS.				
1892,	2	196,553	....	....
1893,	2	170,969	—25,584	....
1894,	2	139,818	—31,151	....
1895,	2	161,111	+21,293	....
1896,	2	139,808	—21,303	....
1897,	2	145,743	+5,935	....
1898,	2	151,011	+5,268	—45,542
RUBBER BOOTS AND SHOES.				
1892,	1	749,235	....	....
1893,	1	845,688	+96,453	....
1894,	1	711,056	—134,632	....
1895,	1	839,553	+128,497	....
1896,	1	812,523	—27.030	....
1897,	1	619,765	—192.758	....
1898,	1	960,923	+341,158	+211,688

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARBONS.				
1892,	1	$59,000	....	....
1893,	1	70,000	+$11,000	....
1894,	1	85,000	+15,000	....
1895,	1	76,500	—8,500	....
1896,	1	83,000	+6,500	....
1897,	1	75,000	—8,000	....
1898,	1	70,000	—5,000	+$11,000
CARPETS.				
1892,	24	11,614,157	....	....
1893,	24	8,626,792	—2,987,365	....
1894,	24	8,222,838	—403,954	....
1895,	24	9,325,013	+1,102,175	....
1896,	24	7,626,053	—1,698,960	....
1897,	24	8,670,951	+1,044,898	....
1898,	24	8,147,236	—523,715	—3,466,921
WOOLEN YARNS.				
1892,	10	3,243,694	....	....
1893,	10	2,441,663	—802,031	....
1894,	10	1,999,184	—442,479	....
1895,	10	2,600,417	+601,233	....
1896,	10	2,338,390	—262,027	....
1897,	10	2,700,099	+361,709	....
1898,	10	3,091,557	+391,458	—152,137

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON YARNS.				
1892,	3	$564,857	....	....
1893,	3	464,105	—$100,752	....
1894,	3	438,901	—25,204	....
1895,	3	500,504	+61,603	....
1896,	3	405,093	—95,411	....
1897,	3	483,900	+78,807	....
1898.	3	447,456	—36,444	—$117,401
WORSTED YARNS.				
1892.	3	1,692,713	....	....
1893,	3	1,029,283	—663,430	....
1894,	3	1,031,841	+2,558	....
1895,	3	1,299,326	+267,485	....
1896,	3	796,376	—502,950	....
1897,	3	1,061,344	+264,968	....
1898,	3	853,230	—208,114	—839,483
MISCELLANEOUS YARNS.				
1892,	9	1,291,013	....	....
1893,	9	889,403	—401,610	....
1894,	9	764,435	—124,968	....
1895,	9	898,503	+134,068	....
1896,	9	701,547	—196,956	....
1897,	9	1,025,606	+324,059	....
1898,	9	802,170	—223,436	—488,843

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
WOOLEN GOODS.				
1892,	16	$9,548,699	....	....
1893,	16	7,014,527	—$2,534,172	....
1894,	16	5,946,052	—1,068,475	....
1895,	16	6,742,988	+796,636	....
1896,	16	5,231,275	—1,511,713	....
1897,	16	6,150,087	+918,812	....
1898,	16	6,266,213	+116,126	—$3,282,486
COTTON GOODS.				
1892,	17	9,394,632	....	....
1893,	17	7,062,762	—2,331,870	....
1894,	17	7,171,910	+109,148	....
1895,	17	6,697,893	—474,017	....
1896,	17	6,157,585	—540,308	....
1897,	17	7,290,259	+1,132,674	....
1898,	17	7,459,927	+169,668	—1,934,705
COTTON AND WOOLEN GOODS.				
1892	12	2,207,731	....	....
1893,	12	1,676,241	—531,490	....
1894,	12	1,408,290	—267,951	....
1895,	12	1,508,407	+100,117	....
1896,	12	1,296,700	—211,707	....
1897,	12	1,485,822	+189,122	....
1898,	12	1,584,830	+99,008	—622,901

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
WORSTED GOODS.				
1892,	3	$1,393,225	....	....
1893,	3	754,032	—$639,193	....
1894,	3	942,455	+188,423	....
1895,	3	1,026,041	+83,586	....
1896,	3	637,328	—388,713	....
1897,	3	1,311,883	+674,555	....
1898,	3	1,311,890	+7	—$81,335
KNIT GOODS.				
1892,	5	1,284,013	....	....
1893,	5	1,087,753	—196,260	....
1894,	5	812,353	—275,400	....
1895,	5	1,080,020	+267,667	....
1896,	5	948,460	—131,560	....
1897,	5	1,077,926	+129,466	....
1898,	5	1,045,926	—32,000	—238,087
CHENILLE GOODS.				
1892,	5	2,280,994	....	....
1893,	5	1,507,337	—773,657	....
1894,	5	1,639,750	+132,413	....
1895,	5	1,748,029	+108,279	....
1896,	5	1,711,009	—37,020	....
1897,	5	1,890,153	+179,144	....
1898,	5	1,990,273	+100,120	—290,721

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
MIXED TEXTILES.				
1892,	9	$3,378,358	....	....
1893,	9	2,462,288	—$916,070	....
1894,	9	2,458,285	—4,003	....
1895,	9	2,813,496	+355,211	....
1896,	9	2,397,722	—415,774	....
1897,	9	2,506,565	+108,843	....
1898,	9	2,777,338	+270,773	—$601,020
TAPESTRY AND TABLE COVERS.				
1892,	3	370,648	....	....
1893,	3	301,223	—69,425	....
1894,	3	309,906	+8,683	....
1895,	3	496,668	+186,762	....
1896,	3	423,356	—73,312	....
1897,	3	500,746	+77,390	....
1898,	3	589,330	+88,584	+218,682
HOSIERY.				
1892,	13	3,006,366	....	....
1893,	13	2,429,258	—577,108	....
1894,	13	2,090,722	—338,536	....
1895,	13	2,819,230	+728,508	....
1896,	13	2,131,116	—688,114	....
1897,	13	2,451,639	+320,523	....
1898,	13	2,592,249	+140,610	—414,117

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT BY SAME ESTABLISHMENTS, FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of product.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
HOSIERY AND KNIT GOODS.				
1892,	3	$748,926	....	....
1893,	3	739,304	—$9,622	....
1894,	3	677,810	—61,494	....
1895,	3	594,226	—83,584	....
1896,	3	459,551	—134,675	....
1897,	3	541,180	+81,629	....
1898,	3	521,697	—19,483	—$227,229
SILK BROAD GOODS.				
1892,	4	3,118,034	....	....
1893,	4	1,176,070	—1,941,964	....
1894,	4	2,624,564	+1,448,494	....
1895,	4	3,250,176	+625,612	....
1896,	4	2,873,300	—376,876	....
1897,	4	3,979,336	+1,106,036	....
1898,	4	4,554,525	+575,189	+1,436,491
RIBBONS.				
1892,	1	131,400	....	....
1893,	1	138,571	+7,171	....
1894,	1	169,748	+31,177	....
1895,	1	205,387	+35,639	....
1896,	1	199,892	—5,495	....
1897,	1	318,502	+118,610	....
1898,	1	313,108	—5,394	+181,708

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

(In this table the value of the average annual product per employe by same establishments for each of the years 1892, 1893, 1894, 1895, 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1892. Forty-seven industries, representing 358 establishments, are considered.)

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
PIG IRON.				
1892	13	$3,972 09	....	....
1893,	13	3,612 33	—$359 76	....
1894,	13	3,187 23	—425 10	....
1895,	13	3,622 86	+435 63	....
1896,	13	3,214 72	—408 14	....
1897,	13	3,174 11	—40 61	....
1898,	13	3,911 22	+737 11	—$60 87
ROLLING MILLS—GENERAL PRODUCT.				
1892,	32	2,599 69	....	....
1893,	32	2,631 92	+32 23	....
1894,	32	2,392 29	—239 63	....
1895,	32	2,411 23	+18 94	....
1896,	32	2,552 87	+141 64	....
1897,	32	2,629 08	+76 21	....
1892,	32	2,786 68	+157 60	+186 99

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON AND STEEL SHEETS AND PLATES.				
1892,	14	$2,295 17	....	....
1893,	14	2,088 17	—$207 00	....
1894,	14	1,816 04	—272 13	....
1895,	14	2,177 97	+361 93	....
1896,	14	1,932 84	—245 13	....
1397,	14	1,857 45	—75 39	....
1898,	14	2,109 18	+251 73	—$185 99
PLATE AND BAR.				
1892,	3	1,526 98	....	....
1893,	3	1,565 77	+38 79	....
1894,	3	1,444 02	—121 75	....
1895,	3	1,352 11	—91 91	....
1896,	3	2,179 86	+827 75	....
1397,	3	2,325 02	+145 16	....
1898,	3	1,272 43	—1,052 59	—254 55
STEEL.				
1892,	13	1,889 99	....	....
1893,	13	1,776 62	—113 37	....
1894,	13	1,614 02	—162 60	....
1895,	13	1,704 39	+90 37	....
1896,	13	1,650 73	—53 66	....
1397,	13	1,684 65	+33 92	....
1898,	13	1,669 45	—15 20	—220 54

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
ARCHITECTURAL CAST AND WROUGHT IRON WORK.				
1892,	4	$2,252 15	....	....
1893,	4	1,684 54	—$567 61	....
1894,	4	1,442 03	—242 51	....
1895,	4	1,348 86	—93 17	....
1896,	4	1,722 94	+374 08	....
1897,	4	1,701 62	—21 32	....
1898,	4	1,933 91	+232 29	—$318 24
IRON FORGING.				
1892,	4	1,806 33	....	....
1893,	4	1,557 19	—249 14	....
1894,	4	1,288 08	—269 11	....
1895,	4	1,312 40	+24 32	....
1896,	4	1,300 50	—11 90	....
1897,	4	1,298 13	—2 37	....
1898,	4	1,546 91	+248 78	—259 42
NAILS AND SPIKES.				
1892	10	1,601 16	....	....
1893,	10	1,388 28	—212 88	....
1894,	10	1,421 17	+32 89	....
1895,	10	1,498 77	+77 60	....
1896,	10	1,123 56	—375 21	....
1897,	10	1,690 37	+566 81	....
1898,	10	1,188 32	—502 05	—412 84

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
NUTS AND BOLTS.				
1892	2	$1,873 39	....	....
1893,	2	1,450 35	—$423 04	....
1894,	2	1,508 54	+58 19	....
1895,	2	1,735 84	+227 30	....
1896,	2	1,595 90	—139 94	....
1897,	2	1,490 95	—104 95	....
1898,	2	1,375 85	—115 10	—$497 54
PIPES AND TUBES.				
1892,	4	1,678 04	....	....
1893,	4	1,607 63	—70 41	....
1894,	4	1,526 32	—81 31	....
1895,	4	1,738 20	+211 88	....
1896,	4	2,156 31	+418 11	....
1897,	4	1,991 07	—165 24	....
1898,	4	2,148 82	+157 75	+470 78
IRON FOUNDRIES AND MACHINE WORKS.				
1892,	25	1,775 92	....	....
1893,	25	1,494 59	—281 33	....
1894,	25	1,421 28	—73 31	....
1895,	25	1,416 45	—4 83	....
1896,	25	1,258 29	—158 16	....
1897,	25	1,350 81	+92 52	....
1898,	25	1,442 09	+91 28	—333 83

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
STOVES, RANGES, HEATERS, ETC.				
1892,	9	$1,319 34	....	....
1893,	9	1,120 79	—$198 55	....
1894,	9	984 55	—136 24	....
1895,	9	1,113 76	+129 21	....
1896,	9	1,067 25	—46 51	....
1897,	9	1,106 91	+39 66	....
1898,	9	1,115 55	+8 64	—$203 79
HARDWARE.				
1892,	4	794 07	....	....
1893,	4	742 22	—51 85	....
1894,	4	710 39	—31 83	....
1895,	4	791 71	+81 32	....
1896,	4	771 72	—19 99	....
1897,	4	687 59	—84 13	....
1898,	4	830 66	+143 07	+36 59
MALLEABLE IRON.				
1892,	2	1,128 09	....	....
1893,	2	1,001 68	—126 41	....
1894,	2	1,011 51	+9 83	....
1895,	2	1,000 43	—11 08	....
1896,	2	932 10	—68 33	....
1897,	2	938 31	+6 21	....
1898,	2	1,011 04	+72 73	—117 05

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
IRON CHAINS.				
1892,	1	$1,315 79	....	....
1893,	1	1,066 66	—$249 13	....
1894,	1	923 08	—143 58	....
1895,	1	1,107 41	+184 33	....
1896,	1	1,071 43	—35 98	....
1897,	1	1,033 33	—38 10	....
1898,	1	1,058 82	+25 49	—$256 97
SAWS, EDGE TOOLS, ETC.				
1892,	5	1,421 23	....	....
1893,	5	1,449 54	+28 31	....
1894,	5	1,222 81	—226 73	....
1895,	5	1,332 04	+109 23	....
1896,	5	1,258 09	—73 95	....
1897,	5	1,188 94	—69 15	....
1898,	5	1,270 43	+81 49	—150 80
METAL AND METALLIC GOODS.				
1892,	8	1,753 99	....	....
1893,	8	1,557 57	—196 42	....
1894,	8	1,373 64	—183 93	....
1895,	8	1,661 57	+287 93	....
1896,	8	1,464 41	—197 16	....
1897,	8	1,545 26	+80 85	....
1898,	8	1,908 52	+363 26	+154 53

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
LOCOMOTIVES AND ENGINES.				
1892,	14	$1,481 86	....	....
1893,	14	1,454 98	—$26 88	....
1894,	14	1,140 81	—314 17	....
1895,	14	1,357 39	+216 58	....
1896,	14	1,402 87	+45 48	....
1897,	14	1,427 33	+24 46	....
1898,	14	1,568 90	+141 57	+$87 04
ENGINES AND BOILERS.				
1892,	6	1,745 82	....	....
1893,	6	1,659 43	—86 39	....
1894,	6	1,638 23	—21 20	....
1895,	6	1,568 55	—69 68	....
1896,	6	1,561 21	—7 34	....
1897,	6	1,476 34	—84 87	....
1898,	6	1,675 63	+199 29	—70 19
BOILERS.				
1892,	7	2,320 26	....	....
1893,	7	2,098 19	—222 07	....
1894,	7	1,513 95	—584 24	....
1895,	7	1,428 68	—85 27	....
1896,	7	1,393 01	—35 67	....
1897,	7	1,361 24	—31 77	....
1898,	7	1,783 65	+422 41	—536 61

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
BRIDGES.				
1892,	4	$1,791 05	....	....
1893,	4	2,069 25	+$278 20	....
1894,	4	1,997 17	—72 08	....
1895,	4	1,848 78	—148 39	....
1896,	4	1,805 59	—43 19	....
1897,	4	1,875 35	+69 76	....
1898,	4	2,181 73	+306 38	+$390 68
CAR SPRINGS.				
1892,	1	5,503 48	....	....
1893,	1	3,768 74	—1,734 74	....
1894,	1	3,064 91	—703 83	....
1895,	1	4,644 71	+1,579 80	....
1896,	1	4,497 57	—147 14	....
1897,	1	3,426 17	—1,071 40	....
1898,	1	4,661 68	+1,235 51	—841 80
CAR COUPLERS.				
1892,	1	2,194 79	....	....
1893,	1	1,770 68	—424 09	....
1894,	1	1,227 72	—542 96	....
1895,	1	1,625 84	+398 12	....
1896,	1	1,382 50	—243 34	....
1897,	1	1,295 03	—87 47	....
1898.	1	1,793 89	+498 86	—400 90

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
CARS AND CAR WHEELS.				
1892,	8	$2,221 09	....	....
1893,	8	1,925 06	—$295 23	....
1894,	8	1,445 47	—480 39	....
1895,	8	1,486 28	+40 81	....
1896,	8	1,481 38	—4 90	....
1897,	8	1,227 07	—254 31	....
1898,	8	1,176 04	—51 03	—$45 05
WINDOW GLASS, BOTTLE AND TABLE GOODS.				
1892,	17	909 06	....	....
1893,	17	754 88	—154 18	....
1894,	17	896 78	+141 90	....
1895,	17	695 17	—201 60	....
1896,	17	815 43	+120 26	....
1897,	17	989 66	+174 23	....
1898,	17	1,021 22	+31 56	+112 16
SHIP BUILDING.				
1892,	1	1,140 35	....	....
1893,	1	1,428 34	+287 99	....
1894,	1	1,281 50	—146 84	....
1895,	1	1,268 76	—12 74	....
1896,	1	1,330 85	+62 09	....
1897.	1	1,229 04	—101 81	....
1898.	1	1,503 07	+274 03	+362 72

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
AGRICULTURAL IMPLEMENTS.				
1892,	2	$1,261 13	....	....
1893,	2	1,059 19	—$201 94	....
1894,	2	1,056 94	—2 25	....
1895,	2	1,035 61	—21 33	....
1896,	2	1,038 68	+3 07	....
1897,	2	1,071 59	+32 91	....
1898,	2	1,223 32	+151 73	—$37 81
PIANOS AND ORGANS.				
1892,	2	1,213 29	....	....
1893,	2	1,055 37	—157 92	....
1894,	2	863 08	—192 29	....
1895,	2	1,134 59	+271 51	....
1896,	2	1,109 59	—25 00	....
1897,	2	1,165 94	+56 35	....
1898,	2	1,189 06	+23 12	—24 23
RUBBER BOOTS AND SHOES.				
1892,	1	2,305 34	....	....
1893,	1	2,416 25	+110 91	....
1894,	1	2,031 59	—384 66	....
1895,	1	2,109 43	+77 84	....
1896,	1	2,263 29	+153 86	....

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
RUBBER BOOTS AND SHOES—Continued.				
1897,	1	$1,652 71	—$610 58	....
1898,	1	2,402 31	+749 60	+$96 97
CARBONS.				
1892,	1	1,229 17	....	....
1893,	1	1,400 00	+170 83	....
1894,	1	1,545 45	+145 45	....
1895,	1	1,561 22	+15 77	....
1896,	1	1,600 00	+38 78	....
1897,	1	1,500 00	—100 00	....
1898,	1	1,400 00	—100 00	+170 83
CARPETS.				
1892,	24	1,720 62	....	....
1893,	24	1,524 17	—196 45	....
1894,	24	1,543 90	+19 73	....
1895,	24	1,578 64	+34 74	....
1896,	24	1,422 24	—156 40	....
1897,	24	1,577 68	+155 44	....
1898,	24	1,590 33	+12 65	—130 29
WOOLEN YARNS.				
1892,	10	1,739 25	....	....
1893,	10	1,659 86	—79 39	....
1894,	10	1,741 45	+81 59	....

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
WOOLEN YARNS—Continued.				
1895,	10	$1,609 17	—$132 28	....
1896,	10	1,756 87	+147 70	....
1897,	10	1,829 34	+72 47	....
1898,	10	2,043 33	+213 99	+$304 08
COTTON YARNS.				
1892,	3	2,180 91	....	....
1893,	3	1,991 87	—189 04	....
1894,	3	1,625 56	—366 31	....
1895,	3	1,702 39	+76 83	....
1896,	3	1,841 33	+138 94	....
1897,	3	1,897 65	+56 32	....
1898,	3	1,675 86	—221 79	—505 05
WORSTED YARNS.				
1892,	3	1,689 33	....	....
1893,	3	1,453 79	—235 54	....
1894,	3	1,429 14	—24 65	....
1895,	3	1,291 57	—137 57	....
1896,	3	1,197 56	—94 01	....
1897,	3	1,457 89	+260 33	....
1898,	3	1,196 68	—261 21	—492 65
MISCELLANEOUS YARNS.				
1892,	9	2,373 18	....	....
1893,	9	1,864 58	—508 60	....

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
MISCELLANEOUS YARNS—Continued.				
1894,	9	$1,828 78	—$35 80	....
1895,	9	2,019 11	+190 33	....
1896,	9	1,853 30	—165 81	....
1897,	9	2,430 30	+557 00	....
1898,	9	2,041 14	—389 16	—$332 04
WOOLEN GOODS.				
1892,	16	1,713 39	....	....
1893,	16	1,423 98	—289 41	....
1894,	16	1,224 48	—199 50	....
1895,	16	1,247 54	+23 06	....
1896,	16	1,330 10	+82 56	....
1897,	16	1,492 37	+162 27	....
1898.	16	1,515 04	+22 67	—198 35
COTTON GOODS.				
1892.	17	2,180 74	....	....
1893,	17	1,823 12	—357 62	....
1894,	17	1,945 19	+122 07	....
1895,	17	1,706 47	—238 72	....
1896,	17	1,581 30	—125 17	....
1897.	17	1,747 01	+165 71	....
1898,	17	1,756 93	+9 92	—423 81

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1892.
COTTON AND WOOLEN GOODS.				
1892,	12	$1,580 34	....	....
1893,	12	1,330 35	—$249 99	....
1894,	12	1,128 44	—201 91	....
1895,	12	1,101 03	—27 41	....
1896,	12	1,097 04	—3 99	....
1897,	12	1,278 68	+181 64	....
1898,	12	1,200 63	—78 05	—$379 71
WORSTED GOODS.				
1892,	3	2,107 75	....	....
1893,	3	1,953 45	—154 30	....
1894,	3	2,044 37	+90 92	....
1895,	3	1,875 76	—168 61	....
1896,	3	1,638 38	—237 38	....
1897,	3	2,150 63	+512 25	....
1898,	3	2,250 24	+99 61	+142 49
KNIT GOODS.				
1892,	5	1,298 29	....	....
1893,	5	1,117 93	—180 36	....
1894,	5	1,006 63	—111 30	....
1895,	5	1,027 61	+20 98	....
1896,	5	974 78	—52 83	....
1897,	5	1,067 25	+92 47	....
1898,	5	1,067 27	+02	—231 02

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1892.
CHENILLE GOODS.				
1892,	5	$1,446 41	....	....
1893,	5	1,307 32	—$139 09	....
1894,	5	1,394 35	+87 03	....
1895,	5	1,470 17	+75 82	....
1896,	5	1,241 66	—228 51	....
1897,	5	1,225 08	—16 58	....
1898,	5	1,263 67	+38 59	—$182 74
MIXED TEXTILES.				
1892,	9	1,669 10	....	....
1893,	9	1,458 70	—210 40	....
1894,	9	1,330 96	—127 74	....
1895,	9	1,387 30	+56 34	....
1896,	9	1,265 95	—121 35	....
1897,	9	1,237 81	—28 14	....
1898,	9	1,310 06	+72 25	—359 04
TAPESTRY AND TABLE COVERS.				
1892,	3	1,647 32	....	....
1893,	3	1,610 82	—36 50	....
1894,	3	1,353 30	—257 52	....
1895,	3	1,523 52	+170 22	....
1896,	3	1,430 26	—93 26	....
1897,	3	1,274 16	—156 10	....
1898,	3	1,275 60	+1 44	—371 72

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
HOSIERY.				
1892,	13	$1,021 18	....	....
1893,	13	917 74	—$103 44	....
1894,	13	807 54	—110 20	....
1895,	13	846 87	+39 33	....
1896,	13	786 97	—59 90	....
1897,	13	813 95	+26 98	....
1898,	13	807 05	—6 90	—$214 13
HOSIERY AND KNIT GOODS.				
1892,	3	1,258 70	....	....
1893,	3	1,211 97	—46 73	....
1894,	3	1,129 68	—82 29	....
1895,	3	946 22	—183 46	....
1896,	3	1,014 46	+68 24	....
1897,	3	1,005 91	—8 55	....
1898,	3	1,107 64	+101 73	—151 06
SILK BROAD GOODS.				
1892,	4	1,796 10	....	....
1893,	4	1,077 09	—719 01	....
1894,	4	1,815 05	+737 96	....
1895,	4	1,694 56	—120 49	....
1896,	4	1,553 14	—141 42	....
1897,	4	1,492 06	—61 08	....
1898,	4	1,536 61	+44 55	—259 49

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE BY SAME ESTABLISHMENTS FOR THE YEARS ENDING 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production during the year to each employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
RIBBONS.				
1892,	1	$1,104 20	....	....
1893,	1	1,237 24	+$133 04	....
1894,	1	1,391 39	+154 15	....
1895,	1	1,521 39	+130 00	....
1896,	1	1,599 14	+77 75	....
1897,	1	1,820 01	+220 87	....
1898,	1	1,557 75	—262 26	+$453 55

YEAR 1892.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	13	321	2,669	$1,223,091	$477 92	$10,597,537
Rolling mills, general product,	32	314	35,368	19,909,005	562 91	91,945,908
Iron and steel sheets and plates,	14	290	5,089	3,225,444	633 81	11,680,127
Plate and bar,	3	250	3,269	1,685,275	515 53	4,991,702
Steel,	13	281	13,075	6,601,181	504 87	24,711,579
Architectural cast and wrought iron works,	4	307	1,350	810,020	600 01	3,040,397
Iron forgings,	4	262	583	379,070	650 21	1,053,091
Nails and spikes,	10	256	3,015	1,294,084	429 19	4,827,506
Nuts and bolts,	2	306	615	238,112	387 17	1,152,138
Pipes and tubes,	4	267	1.336	575,531	430 78	3,241,367
Iron foundries and machine works,	25	301	3,554	1,967,645	553 64	6,311,627
Stoves, ranges, heaters, etc.,	9	284	1,243	630,622	507 34	1,639,339
Hardware,	4	295	1,565	608,700	388 94	1,242,721
Malleable iron,	2	302	401	207,159	516 61	452,363
Iron chains,	1	290	95	34,000	357 89	125,000
Saws, edge tools, etc.,	5	302	2,448	1,306,442	533 68	3,479,164
Metal and metallic goods,	8	321	1,726	833,385	482 84	3,027,395
Locomotives and engines,	14	305	11,591	6,941,946	598 90	17,176,167
Engines and boilers,	6	323	1,635	820,391	536 72	2,854,423
Boilers,	7	277	762	394,594	419 41	1,768,089
Bridges,	4	310	1,217	532,673	437 62	2,179,715
Car springs,	1	312	207	139,800	675 36	1,139,230
Car couplers,	1	310	663	361,338	545 00	1,455,135
Cars and car wheels,	8	301	3,566	1,901,063	533 11	7,920,412
Ship building,	1	310	440	242,358	550 80	501,753
Agricultural implements,	2	300	516	199,277	386 19	650,744
Rubber boots and shoes,	1	250	325	141,784	436 25	749,235
Woolen Yarns,	10	299	1,865	527,864	283 03	3,243,694
Cotton yarns,	3	296	259	84,571	326 53	564,857
Worsted yarns,	3	300	1,002	298,181	297 58	1,692,713
Miscellaneous yarns,	9	302	544	212,052	389 80	1,291,013
Hosiery,	13	296	2,944	770,891	261 85	3,006,366
Hosiery and knit goods,	3	300	595	197,312	331 61	748,926

YEAR 1892—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Carpets,	24	280	6,750	$2,573,458	$381 24	$11,614,157
Cotton and woolen goods,	12	301	1,397	483,504	346 10	2,207,781
Cotton goods,	17	308	4,308	1,656,806	384 58	9.394,632
Woolen goods,	16	299	5,573	1,958,364	350 51	9,548,699
Knit goods,	5	313	989	286,648	289 84	1,284,013
Worsted goods,	2	310	661	239,858	362 87	1,393,225
Mixed textiles,	9	303	2,024	712,069	351 81	3,378,358
Chenille goods,	5	322	1,577	648,492	411 21	2,280,904
Tapestry and table covers,	2	302	225	94,620	420 53	370,648
Silk broad goods,	4	304	1,736	430,455	247 96	3,118,034
Ribbons,	1	307	119	40,661	341 68	131,400
Window glass, bottle and table goods,	17	253	6,512	3,013,108	462 70	5,919,793
Pianos and organs,	2	303	162	53,972	333 16	196,553
Carbons,	1	300	48	25,000	520 83	59,000
Totals,	358	294	137,612	$67,506,814	$490 55	$270,359,609

YEAR 1893.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product
Pig metal,	13	286	2,222	$968,289	$446 14	$8,026,593
Rolling mills, general product,.	32	307	33,695	17,884,919	547 02	86,050,594
Iron and steel sheets and plates,	13	243	4,590	2,658,514	579 19	9,584,689
Plate and bar,	3	198	2,330	1,150,276	493 68	3,648,252
Steel,	14	270	10,585	5,234,148	494 49	18,805,567
Architectural cast and wrought iron work,	4	308	1,202	699,209	581 70	2,024,821
Iron forgings,	4	244	507	302,651	596 95	789,496
Nails and spikes,	10	230	2,840	1,130,151	397 94	3,942,713
Nuts and bolts,	2	305	695	235,777	339 24	1,007,998
Pipes and tubes,	4	250	1,311	519,129	395 98	2,107,604
Iron foundries and machine works,	25	279	3,097	1,533,465	495 14	4,628,768
Stoves, ranges, heaters, etc., ..	9	272	1,361	674,514	496 33	1,525,391
Hardware,	4	249	1,544	581,468	376 59	1,145,987
Malleable iron,	2	262	363	167,644	463 11	362,608
Iron chains,	1	240	75	24,000	320 00	80,000
Saws, edge tools, etc.,	5	284	2,210	1,166,262	527 72	3,203,476
Metal and metallic goods,	8	282	1,623	738,086	455 02	2,526,382
Locomotives and engines,	14	284	11,644	6,528,803	560 70	16,941,708
Engines and boilers,	6	289	1,384	658,487	510 03	2,296,655
Boilers,	7	250	723	285,385	393 67	1,514,899
Bridges,	4	305	971	413,517	425 86	2,009,234
Car springs,	1	312	187	104,498	558 81	704,754
Car couplers,	1	243	570	281,375	493 64	1,009,284
Cars and car wheels,	8	282	3,144	1,579,523	502 39	6,054,890
Ship building,	1	309	583	324,439	556 49	832,720
Agricultural implements,	2	276	527	181,848	345 06	558,198
Rubber boots and shoes,	1	230	350	145,471	415 63	845,688
Woolen yarns,	10	245	1,471	428,848	291 53	2,441,663
Cotton yarns,	3	250	233	71,384	306 36	464,105
Worsted yarns,	3	199	708	211,833	299 20	1,029,283
Miscellaneous yarns,	9	252	477	150,765	316 07	889,403
Hosiery,	13	261	2,647	660,803	249 64	2,429,258
Hosiery and knit goods,	3	293	610	186,860	306 32	739,304

YEAR 1893—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Carpets,	24	218	5,660	$2,085,404	$368 45	$8,626,792
Cotton and woolen goods,	12	255	1,260	390,597	310 00	1,676,241
Cotton goods,	17	249	3,874	1,186,610	306 30	7,062,762
Woolen goods,	16	245	4,926	1,527,984	310 19	7,014,527
Knit goods,	5	278	973	255,438	262 53	1,087,753
Worsted goods,	3	222	386	135,561	351 18	754,082
Mixed textiles,	9	290	1,688	520,688	308 40	2,462,288
Chenille goods,	5	295	1,153	435,761	377 93	1,507,337
Tapestry and table covers,	2	291	187	68,484	312 96	301,223
Silk and broad goods,	4	247	1,092	248,372	227 45	1,176,070
Ribbons,	1	247	112	30,646	273 63	138,571
Window glass, bottle and table goods,	17	195	5,993	2,209,369	368 66	4,523,966
Pianos and organs,	2	280	162	50,583	312 24	170,969
Carbons,	1	300	50	27,000	540 00	70,000
Totals,	358	268	122,992	$57,054,783	$463 89	$226,794,526

YEAR 1894.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	13	301	1,751	$658,393	$382 09	$5,580,847
Rolling mills, general product,	32	300	30,120	14,537,538	482 65	72,055,767
Iron and steel sheets and plates,	14	267	4,294	2,251,379	524 31	7,798,069
Plate and bar,	3	232	1,785	696,970	401 71	2,505,387
Steel,	13	272	9,778	4,492,128	459 41	15,781,892
Architectural cast and wrought iron work,	4	307	976	488,190	500 19	1,407,416
Iron forgings,	4	296	469	237,457	506 31	604,106
Nails and spikes,	10	228	2,305	770,354	334 21	3,275,789
Nuts and bolts,	2	288	560	208,854	372 95	844,782
Pipes and tubes,	4	268	1,263	513,268	406 38	1,927,748
Iron foundries and machine works,	25	282	2,603	1,313,309	504 53	3,699,595
Stoves, ranges, heaters, etc.,	9	210	1,238	526,222	425 06	1,218,872
Hardware,	4	205	1,464	494,538	337 79	1,040,023
Malleable iron,	2	247	293	129,634	442 44	296,371
Iron chains,	1	225	65	20,000	307 70	60,000
Saws, edge tools, etc.,	5	286	1,965	872.555	444 05	2,402,820
Metal and metallic goods,	8	288	1,500	675,524	450 35	2,060,465
Locomotives and engines,	14	267	8,441	4,032,489	477 72	9,629,617
Engines and boilers,	6	298	992	521,260	528 49	1,625,120
Boilers,	7	220	691	220,692	319 23	1,046,140
Bridges,	4	305	647	262,340	405 31	1,292,171
Car springs,	1	255	108	49,664	459 85	331,010
Car couplers,	1	203	416	160,978	386 96	510,732
Cars and car wheels,	8	261	2,830	1,292,310	456 65	4,090,667
Ship building,	1	310	395	226,858	574 32	506,192
Agricultural implements,	2	300	501	173,846	346 99	529,523
Rubber boots and shoes,	1	248	350	128,156	366 16	711,056
Woolen yarns,	10	277	1,148	286,557	249 61	1,999,184
Cotton yarns,	3	261	270	70,983	262 90	438,901
Worsted yarns,	3	277	722	201,584	279 20	1,031,841
Miscellaneous yarns,	9	263	418	138,072	330 31	764,435
Hosiery,	13	273	2,589	567,411	219 16	2,090,723
Hosiery and knit goods,	3	300	600	191,806	319 67	677,810

YEAR 1894—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Carpets,	24	259	5,326	$1,002,657	$355 30	$8,222 838
Cotton and woolen goods,	12	258	1,248	362,164	290 19	1,408 290
Cotton goods,	17	246	3,687	1,171,554	317 75	7,171,910
Woolen goods,	16	278	4,856	1,388,781	286 00	5,946,052
Knit goods,	5	254	807	205,732	254 93	812,358
Worsted goods,	3	287	461	158,743	344 35	942,455
Mixed textiles,	9	289	1,847	531,680	287 86	2,458,285
Chenille goods,	5	239	1,176	442,828	376 55	1,639,750
Tapestry and table covers,	3	300	229	91,722	400 53	309,906
Silk broad goods,	4	292	1,446	362,119	250 00	2,624,564
Ribbons,	1	302	122	35,500	290,98	169,748
Window glass, bottle and table goods,	17	261	5,152	2,219,127	430 73	4,620,213
Pianos and organs,	2	259	162	46,187	285,10	139,818
Carbons,	1	300	55	29,000	527 28	35,000
Totals,	358	276	110,071	$45,459,013	$413 00	$186,386,247

YEAR 1895.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal,	13	327	2,269	$1,060,012	$488 66	$8,220,266
Rolling mills, general product,	32	310	35,123	17,620,324	501 65	84,689,471
Iron and steel sheets and plates,	14	307	4,869	2,728,209	560 32	10,604,551
Plate and bar,	3	257	2,263	864,145	381 86	3,059,825
Steel,	13	279	12,138	5,872,084	483 78	20,687,942
Architectural cast and wrought iron work,	4	306	1,438	786,657	547 05	1,939,661
Iron forgings,	4	289	594	311,275	524 03	779,569
Nails and spikes,	10	220	2,422	848,142	350 18	3,630,012
Nuts and bolts,	2	291	638	257,208	403 13	1,107,466
Pipes and tubes,	4	288	1,454	646,083	444 34	2,527,348
Iron foundries and machine works,	25	299	3,066	1,571,056	512 41	4,342,836
Stoves, ranges, heaters, etc.,	9	229	1,285	575,802	448 09	1,431,181
Hardware,	4	260	1,586	589,411	371 63	1,255,661
Malleable iron,	2	272	367	185,490	505 42	367,157
Iron chains,	1	237	81	28,400	350 42	89,700
Saws, edge tools, etc.,	5	294	2,188	1,078,514	538 62	2,914,563
Metal and metallic goods,	8	311	1,704	829,877	487 02	2,831,319
Locomotives and engines,	14	292	9,363	5,231,956	558 79	12,709,222
Engines and boilers,	6	292	1,226	647,889	528 66	1,922,041
Boilers,	7	205	694	253,044	364 61	991,505
Bridges,	4	303	970	450,391	464 32	1,733,317
Car springs,	1	277	107	67,556	631 36	496,984
Car couplers,	1	285	606	304,785	502 94	985,258
Cars and car wheels,	8	303	2,887	1,533,033	531 01	4,291,747
Ship building,	1	307	336	190,820	567 91	426,303
Agricultural implements,	2	309	535	191,409	357 77	554,054
Rubber boots and shoes,	1	271	398	150,705	378 65	839,553
Woolen yarns,	10	293	1,616	424,006	262 38	2,600,417
Cotton yarns,	3	288	294	89,806	305 46	500,504
Worsted yarns,	3	301	1,006	278,890	277 22	1,299,326
Miscellaneous yarns,	9	284	445	159,564	358 57	898,508
Hosiery,	13	294	3,329	863,884	259 50	2,819,230
Hosiery and knit goods,	3	272	628	179,494	285 81	594,226

YEAR 1895—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Carpets, ...	24	277	5,907	$2,228,021	$374 48	$9,325,013
Cotton and woolen goods, ...	12	265	1,370	420,075	306 62	1,508,407
Cotton goods, ...	17	285	3,925	1,303,844	332 19	6,697,893
Woolen goods, ...	16	298	5,405	1,694,440	313 49	6,742,988
Knit goods, ...	5	283	1,051	288,841	274 82	1,080,020
Worsted goods, ...	3	265	547	192,633	352 16	1,026,041
Mixed textiles, ...	9	298	2,028	615,095	303 30	2,813,496
Chenille goods, ...	5	300	1,189	460,319	387 14	1,748,029
Tapestry and table covers, ...	3	295	326	124,723	382 64	4 6,668
Silk broad goods, ...	4	303	1,918	449,854	234 54	3,250,176
Ribbons, ...	1	303	135	49,346	365 53	205,387
Window glass, bottle and table goods, ...	17	241	6,195	2,198,916	354 95	4,306,614
Pianos and organs, ...	2	290	142	49,644	349 61	161,111
Carbons, ...	1	300	49	28,000	571 43	76,500
Totals, ...	358	288	128,112	$56,973,666	$444 72	$223,580,071

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig metal	13	293	2,242	$947,508	$422 61	$7,207,417
Rolling mills, general product,	32	308	34,755	17,829,462	513 00	88,725,133
Iron and steel sheets and plates,	14	258	4,522	2,390,653	528 67	2,740,308
Plate and bar,	3	229	1,295	596,165	460 36	2,822,922
Steel,	12	219	10,058	4,592,017	456 55	16,603,083
Architectural cast and wrought iron work,	4	305	1,298	718,716	553 71	2,236,372
Iron forgings,	4	246	569	295,092	518 62	739,985
Nails and spikes,	10	205	1,891	527,201	278 79	2,124,658
Nuts and bolts,	2	298	530	211,195	398 48	845,826
Pipes and tubes,	4	296	1,326	658,449	421 15	2,987,296
Iron foundries and machine works,	25	289	2,794	1,384,299	495 45	3,515,633
Stoves, ranges, heaters, etc.,	9	222	1,296	559,614	431 80	1,383,157
Hardware,	4	260	1,464	506,748	346 14	1,129,798
Malleable iron,	2	270	445	206,976	465 11	414,786
Iron chains,	1	235	70	25,000	357 14	75,000
Saws, edge tools, etc.,	5	279	2,171	1,083,069	498 88	2,781,311
Metal and metallic goods,	8	304	1,640	812,633	495 51	2,401,636
Locomotives and engines,,	14	291	10,228	5,402,517	528 21	14,348,550
Engines and boilers,	6	291	1,326	647,307	488 16	2,070,170
Boilers,	7	209	747	231,665	310 13	1,040,575
Bridges,	4	285	738	293,005	397 03	1,332,526
Car springs,	1	255	115	76,031	661 14	517,221
Car couplers,	1	303	976	436,177	446 90	1,349,321
Cars and car wheels,	8	284	2,841	1,363,150	479 81	4,208,607
Ship building,	1	307	516	285,108	552 52	686,720
Agricultural implements,	2	293	505	176,371	349 25	524,534
Rubber boots and shoes,	1	244	359	131,577	338 66	812,523
Woolen yarns,	10	269	1,331	408,385	306 83	2,238,390
Cotton yarns,	3	276	220	63,476	288 52	405,093
Worsted yarns,	3	246	665	157,080	236 21	796,376
Miscellaneous yarns,	9	214	378	130,224	344 51	701,547
Hosiery,	12	288	2,708	632,065	233 41	2,131,116

YEAR 1896—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Hosiery and knit goods, ...	8	289	453	$105,220	$232 27	$459,551
Carpets, ...	24	263	5,362	1,830,621	341 41	7,626,053
Cotton and woolen goods, ...	12	220	1,182	338,900	286 72	1,296,709
Cotton goods, ...	17	258	3,894	1,064,130	273 27	6,157,585
Woolen goods, ...	16	274	3,932	1,199,111	304 88	5,231,275
Knit goods, ...	5	261	973	228,053	234 38	948,460
Worsted goods, ...	3	220	389	132,290	340 08	637,328
Mixed textiles, ...	9	282	1,894	559,443	297 37	2,307,722
Chenille goods, ...	5	291	1,378	501,772	364 13	1,711,009
Tapestry and table covers, ...	3	289	296	115,266	389 07	423,356
Silk broad goods, ...	4	274	1,850	470,930	254 56	2,873,300
Ribbons, ...	1	304	125	40,056	320 00	199,892
Window glass, bottle and table goods, ...	17	229	4,868	1,903,683	391 06	3,969,520
Pianos and organs, ...	2	208	126	51,392	407 87	139,808
Carbons, ...	1	310	60	24,000	480 00	83,000
Totals, ...	358	276	118,792	$52,343,792	$440 64	$212,052,158

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Pig iron,	13	319	1,904	$797,839	$419 03	$6,043,503
Rolling mills, general product,	32	311	35,579	17,159,786	482 30	93,540,222
Iron and steel sheets and plates,	14	271	5,205	2,569,347	493 63	9,668,034
Plate and bar,	3	285	1,360	626,280	460 50	3,102,028
Steel,	13	271	10,361	4,918,524	474 71	17,454,677
Architectural cast and wrought iron work,	4	304	1,086	597,775	550 44	1,847,959
Iron forgings,	4	267	533	281,250	527 67	691,901
Nails and spikes,	10	243	1,714	503,927	346 52	2,897,207
Nuts and bolts,	2	304	576	200,064	347 33	858,788
Pipes and tubes,	4	278	1,357	642,407	473 40	2,701,883
Iron foundries and machine works,	25	298	3,002	1,513,104	504 03	4,055,120
Stoves, ranges, heaters, etc.,	9	236	1,278	574,595	448 97	1,414,639
Hardware,	4	261	1,569	555,295	353 98	1,078,827
Malleable iron,	2	273	431	208,714	484 25	404,410
Iron chains,	1	230	60	21,610	357 14	62,000
Saws, edge tools, etc.,	5	274	2,126	988,912	465 15	2,527,680
Metal and metallic goods,	3	288	1,515	712,676	470 41	2,311,075
Locomotives and engines,	14	295	10,038	5,398,050	537 76	14,327,515
Engines and boilers,	6	297	1,205	552,180	458 24	1,778,989
Boilers,	7	248	652	236,863	363 29	887,529
Bridges,	4	305	630	275,270	436 94	1,181,470
Car springs,	1	244	125	69,144	553 15	428,271
Car couplers,	1	303	813	371,800	457 32	1,012,857
Cars and car wheels,	8	288	2,661	1,335,463	501 81	3,265,217
Window glass, bottle and table goods,	17	268	4,993	2.257,805	459 19	4.941,382
Ship building,	1	310	388	215,604	555 68	476,868
Agricultural implements,	2	301	479	174,515	364 33	513,293
Pianos and organs,	2	298	125	52,502	420 02	145,743
Rubber boots and shoes,	1	222	375	103,639	276 37	619,765
Carbons,	1	310	50	24,000	480 00	75,000
Carpets,	24	291	5,496	1,983,366	360 88	8,670,951

YEAR 1897—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
Woolen yarns, ...	10	296	1,476	$384,803	$260 71	$2,700,099
Cotton yarns, ...	3	297	255	78,009	305 92	483,900
Worsted yarns, ...	3	288	728	201,321	276 54	1,061,344
Miscellaneous yarns, ...	9	283	422	156,864	371 72	1,025,606
Woolen goods, ...	16	290	4,121	1,363,041	330 75	6,150,087
Cotton goods, ...	17	293	4,173	1,251,253	299 84	7,290,259
Cotton and woolen goods, ...	12	270	1,162	359,586	309 46	1,485,822
Worsted goods, ...	3	289	610	256,513	420 51	1,311,888
Knit goods, ...	5	271	1,010	247,615	245 16	1,077,426
Chenille goods, ...	5	301	1,542	575,861	373 04	1,830,153
Mixed textiles, ...	9	282	2,025	591,656	292 18	2,506,565
Tapestry and table covers, ...	3	291	393	161,275	410 37	500,746
Hosiery, ...	13	288	3,012	773,370	256 76	2,451,639
Hosiery and knit goods, ...	3	300	538	148,908	276 78	541,180
Silk broad goods, ...	4	303	2,667	632,685	237 23	3,979,336
Ribbons, ...	1	300	175	71,250	407 14	318,502
Totals, ...	358	287	121,995	$52,406,316	$429 58	$223,889,449

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.
Pig iron,	13	344	2,124
Rolling mills, general product,	32	321	40,175
Iron and steel sheets and plates,	14	290	6,524
Plate and bar,	3	300	2,372
Steel,	13	282	12,176
Architectural cast and wrought iron work,	4	306	1,435
Iron forgings,	4	293	668
Nails and spikes,	10	205	2,099
Nuts and bolts,	2	306	758
Pipes and tubes,	4	284	1,612
Iron foundries and machine works,	25	300	3,417
Stoves, ranges, heaters, etc.,	9	246	1,310
Hardware,	4	233	1,695
Malleable iron,	2	292	697
Iron chains,	1	300	85
Saws, edge tools, etc.,	5	299	2,549
Metal and metallic goods,	8	309	1,609
Locomotives and engines,	14	301	12,397
Engines and boilers,	6	303	1,269
Boilers,	7	277	810
Bridges,	4	304	757
Car springs,	1	286	140
Car couplers,	1	303	783
Cars and car wheels,	8	297	3,572
Ship building,	1	307	810
Agricultural implements,	2	307	491
Rubber boots and shoes,	1	244	400

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Aggregate amount of wages paid.	Average yearly earnings.	Value of product.	Value of product during the year to each employe.	Average daily wage.
$950,759	$447 63	$8,307,428	$3,911 22	$1 30
20,005,631	497 96	111,954,871	2,786 68	1 55
3,402,674	521 56	13,760,272	2,109 18	1 80
1,082,343	456 30	3,018,260	1,272 43	1 52
5,828,123	478 66	20,327,249	1,669 45	1 70
771,191	537 42	2,775,266	1,933 91	1 76
365,737	547 51	1,033,335	1,546 91	1 87
556,145	264 96	2,494,289	1,188 32	1 29
291,593	384 69	1,042,896	1,375 85	1 26
769,577	477 41	3,463,901	2,148 82	1 68
1,800,212	526 84	4,927,626	1,442 09	1 76
595,133	454 30	1,461,366	1,115 55	1 85
575,798	339 70	1,407,967	830 66	1 46
341,962	490 62	704,698	1,011 04	1 68
31,100	365 88	90,000	1,058 82	1 22
1,273,829	499 74	3,238,334	1,270 43	1 67
762,480	473 88	3,070,810	1,908 52	1 53
7,149,884	576 74	19,449,658	1,568 90	1 92
639,408	503 87	2,126,376	1,675 63	1 66
298,175	368 12	1,444,757	1,783 65	1 33
333,277	440 26	1,651,568	2,181 73	1 45
95,162	679 73	652,635	4,661 68	2 38
351,902	449 43	1,404,617	1,793 89	1 48
1,912,759	535 49	4,200,831	1,176 04	1 80
397,489	490 73	1,217,489	1,503 07	1 60
185,638	378 08	600,649	1,223 32	1 23
139,770	349 43	960,923	2,402 31	1 43

YEAR 1898—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Character of Industries.	Number of establishments considered.	Average number of days in operation.	Total number of persons employed.
Woolen yarns,	10	274	1,513
Cotton yarns,	3	295	267
Worsted yarns,	3	256	713
Miscellaneous yarns,	9	263	393
Hosiery,	13	279	3,212
Hosiery and knit goods,	3	300	471
Carpets,	24	286	5,123
Cotton and woolen goods,	12	272	1,320
Cotton goods,	17	298	4,246
Woolen goods,	16	289	4,136
Knit goods,	5	253	980
Worsted goods,	3	273	583
Mixed textiles,	9	300	2,120
Chenille goods,	5	302	1,575
Tapestry and table covers,	3	291	462
Silk broad goods,	4	292	2,964
Ribbons,	1	300	201
Window glass, bottles and table goods,	17	271	5,572
Pianos and organs,	2	296	127
Carbons,	1	310	50
Totals and averages,	358	298	138,762

YEAR 1898—Continued.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS.

Aggregate amount of wages paid.	Average yearly earnings.	Value of product.	Value of product during the year to each employe.	Average daily wage.
$461,866	$305 26	$3,091,557	$2,043 33	$1 11
82,051	307 31	447,456	1,675 86	1 04
175,310	245 88	853,230	1,196 68	96
133,248	339 05	802,170	2,041 14	1 29
807,402	251 37	2,592,249	807 05	90
134,120	284 76	521,697	1,107 64	95
1,824,963	356 23	8,147,236	1,590 33	1 25
416,500	315 53	1,584,830	1,200 63	1 16
1,373,237	323 42	7,459,927	1,756 93	1 09
1,384,116	334 65	6,266,213	1,515 04	1 16
247,184	252 23	1,045,926	1,067 27	1 00
244,146	418 78	1,311,890	2,250 24	1 53
632,258	298 23	2,777,338	1,310 06	99
561,012	356 20	1,990,273	1,263 67	1 18
180,225	390 10	589,330	1,275 60	1 34
724,004	244 27	4,554,525	1,536 61	84
67,285	334 75	313,108	1,557 75	1 12
2,525,933	453 33	5,690,250	1,021 22	1 67
54,027	425 41	151,011	1,189 06	1 44
24,000	480 00	70,000	1,400 00	1 55
$62,960,638	$453 73	$267,048,287	$1,924 51	$1 52

RESUME.

THE SAME ESTABLISHMENTS FOR THE YEARS 1892, 1893, 1894, 1895, 1896, 1897 AND 1898.

Years.	Number of establishments considered.	Average number of persons employed.	Aggregate amount of wages paid.	Average yearly earnings.	Value of product.
1892, ...	358	137,612	$67,505,814	$490 55	$270,359,609
1893, ...	358	122,992	57,054,783	463 89	226,794,526
1894, ...	358	110,071	45,459,013	413 00	186,386,247
1895, ...	358	128,112	56,973,666	444 72	223,580,071
1896, ...	358	118,792	52,343,792	440 64	212,052,158
1897, ...	358	121,995	52,406,316	429 58	223,889,449
1898, ...	358	138,762	62,960,638	453 73	267,048,287

COMPARISON OF TOTALS, ALL ESTABLISHMENTS (358), FOR THE YEARS ENDING, 1892, 1893, 1894, 1895, 1896, 1897, 1898.

Employes, wages, earnings, value and years.	Number of establishments considered.	Totals.	Increase (+) or decrease (—) as compared with the preceding year.		Increase (+) or decrease (—) 1898 as compared with 1892.	
			Amounts.	Percentage.	Amounts.	Percentage.
PERSONS EMPLOYED.						
1892,	358	137,612	....	....	....	....
1893,	358	122,992	—14,620	—10.62	....	....
1894,	358	110,071	—12,921	—10.50	....	....
1895,	358	128,112	+18,041	+16.39	....	....
1896,	358	118,792	—9,320	—07.27	....	....
1897,	358	121,995	+3,203	+02.70	....	....
1898,	358	138,762	+16,767	+13.74	+1,150	00.84
AGGREGATE WAGES PAID.						
1892,	358	$67,505,814	....	....	....	....
1893,	358	57,054,783	—$10,451,031	—15.48	....	....
1894,	358	45,459,013	—11,595,770	—20.32	....	....
1895,	358	56,973,666	+11,514,653	+25.33	....	....
1896,	358	52,343,792	—4,629,874	—8.13	....	....
1897.	358	52,406,316	+62,524	+0.12	....	....
1898,	358	62,960,638	+10,554,322	+20.14	—$4,545,176	—6.73
AVERAGE YEARLY EARNINGS.						
1892,	358	$490 55	....	....	....	....
1893,	358	463 89	—$26 66	—5.43	....	....
1894,	358	413 00	—50 89	—10.97	....	....
1895,	358	444 72	+31 72	+7.68	....	....
1896,	358	440 64	—4 08	—0.92	....	....
1897,	358	429 58	—11 06	—2.51	....	....
1898,	358	453 73	+24 15	+5.62	—$36 82	—7.51
VALUE OF PRODUCT.						
1892,	358	$270,259,609	....	....	....	....
1893,	358	226,794,526	—$43,565,083	—16.11	....	....
1894,	358	186,386,247	—40,408,279	—17.82	....	....
1895,	358	223,580,071	+37,193,824	+19.95	....	....
1896,	358	212,052,158	—11,527.913	—5.15	....	....
1897.	358	223,889,449	+11,837,291	+5.58	....	....
1898,	358	267,048,287	+43,158,838	+19.28	—$3,311,322	—1.23

1896 SERIES.

CAPITAL INVESTED.

COMPARISON OF AGGREGATE CAPITAL INVESTED—SAME ESTABLISHMENTS, 1896, 1897 AND 1898.

NOTE.—In this table the aggregate amount of capital invested by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$5,744,982	....	....
1897,	7	5,316,197	—$428,785	....
1898,	7	5,354,846	+38,649	—$390,136
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	13,142,675	....	....
1897,	5	13,223,900	+81,225	....
1898,	5	12,728,900	—495,000	—413,775
TOOL STEEL.				
1896,	2	430,000	....	....
1897,	2	558,000	+128,000	....
1898,	2	640,000	+82,000	+210,000
IRON AND STEEL SPECIALTIES.				
1896,	3	138,950	....	....
1897,	3	141,000	+2,050	....
1898,	3	125,000	—16,000	—13,950
IRON AND STEEL FORGINGS.				
1896,	7	431,000	....	....
1897,	7	430,000	—1,000	....
1898,	7	482,850	+52,850	+51,850

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	$35,000	....	....
1897,	2	45,000	+$10,000	....
1898,	2	45,000	....	+$10,000
MALLEABLE IRON.				
1896,	4	440,000	....	....
1897,	4	493,925	+53,925	....
1898,	4	532,600	+38,675	+92,600
BOLTS, NUTS, ETC.				
1896,	8	1,885,950	....	....
1897,	8	1,918,214	+32,264	....
1898,	8	1,957,776	+39,562	+71,826
SPIKES AND RIVETS.				
1896,	2	125,000	....	....
1897,	2	135,000	+10,000	....
1898,	2	132,950	—2,050	+7,950
WIRE NAILS.				
1896,	3	905,000	....	....
1897,	3	905,000	....	....
1898,	3	905,000	....	....
TACKS AND SMALL NAILS.				
1896,	4	163,500	....	....
1897,	4	163,500	....	....
1898,	4	123,500	—40,000	—40,000

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WIRE.				
1896,	6	$515,000	....	....
1897,	6	522,100	+$7,000	....
1898,	6	555,600	+33,500	+$40,500
WIRE ROPE.				
1896,	2	690,000	....	....
1897,	2	700,000	+10,000	....
1898,	2	700,000	....	+10,000
WIRE GOODS.				
1896,	4	75,950	....	....
1897,	4	79,450	+3,500	....
1898,	4	80,050	+600	+4,100
WAGON AND CARRIAGE AXLES.				
1896,	4	469,475	....	....
1897,	4	469,475	....	....
1898,	4	469,475	....	....
CARRIAGE AND WAGON SPRINGS.				
1896,	2	125,000	....	....
1897,	2	125,000	....	....
1898,	2	135,000	+10,000	+10,000
SCALES, ETC.				
1896,	5	168,500	....	....
1897,	5	173,500	+5,000	....
1898,	5	178,500	+5,000	+10,000

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, RANGES, HEATERS, ETC.				
1896,	39	$5,544,712	....	....
1897,	39	5,607,709	+$62,997	....
1898,	39	5,680,161	+72,452	+$135,449
BATH BOILERS, TANKS, ETC.				
1896,	2	52,820	....	....
1897,	2	54,000	+1,180	....
1898,	2	54,000	....	+1,180
HARDWARE SPECIALTIES.				
1896,	14	3,077,418	....	....
1897,	14	3,246,189	+168,771	....
1898,	14	3,337,946	+91,757	+260,528
EDGE TOOLS.				
1896,	12	1,675,197	....	....
1897,	12	1,613,064	—62,133	....
1898,	12	1,646,820	+33,756	—28,377
WRENCHES, PICKS, ETC.				
1896,	5	564,000	....	....
1897,	5	571,000	+7,000	....
1898,	5	571,000	....	+7,000
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	1,464,400	....	....
1897,	3	1,464,400	....	....
1898,	3	1,442,800	—21,600	—21,600

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$1,910,000	....	....
1897,	3	1,910,000	....	....
1898.	3	1,910,000	....	....
CAR WHEELS AND CAR AXLES.				
1896,	2	500,000	....	....
1897,	2	500,000	....	....
1898,	2	500,000	....	....
FREIGHT AND STREET CARS, ETC.				
1896,	4	661,416	....	....
1897,	4	671,416	+$10,000	....
1898,	4	676,416	+5,000	+$15,000
WROUGHT IRON PIPE AND TUBES.				
1896,	5	13,555,000	....	....
1897.	5	13,505,000	—50,000	....
1898,	5	13,505,000	....	—50,000
CAST IRON PIPE.				
1896,	3	340,000	....	....
1897,	3	613,059	+273,059	....
1898,	3	641,710	+28,651	+301,710
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	2,336,192	....	....
1897,	22	2,328,192	—8,000	....
1898,	22	2,336,450	+8,258	+258

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$961,050	....	....
1897,	8	961,050	....	....
1898,	8	961,050	....	....
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	11,222,730	....	....
1897,	9	11,643,157	+$420,427	....
1898,	9	12,118,787	+475,630	+$896,057
ENGINES, BOILERS, ETC.				
1896,	10	3,908,988	....	....
1897,	10	3,924,988	+16,000	....
1898,	10	3,930,783	+5,795	+21,795
RAILWAY SWITCHES, ETC.				
1896,	2	2,238,909	....	....
1897,	2	1,758,700	—480,290	....
1898,	2	1,785,842	+27,142	—353,148
RAILWAY SUPPLIES.				
1896,	1	1,000,000	....	....
1897,	1	1,000,000	....	....
1898,	1	1,000,000	....	....
IRON VESSELS AND ENGINES.				
1896,	4	7,189,973	....	....
1897,	4	7,424,993	+235,020	....
1898,	4	7,262,278	—162,715	+72,305

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$1,544,562	....	....
1897,	21	1,624,265	+$79,703	....
1898,	21	1,656,210	+31,945	+$111,648
MACHINERY.				
1896,	21	8,798,408	....	....
1897,	21	8,921,924	+123,516	....
1898,	21	9,297,253	+375,339	+498,845
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	3,041,550	....	....
1897,	25	3,062,486	+20,936	....
1898,	25	3,161,069	+99,583	+119,519
FILES, ETC.				
1896,	2	510,000	....	....
1897,	2	510,000	....	....
1898,	2	512,000	+2,000	+2,000
SAWS.				
1896,	3	310,000	....	....
1897,	3	335,000	+25,000	....
1898,	3	335,000	....	+25,000
PLUMBER SUPPLIES.				
1896,	3	2,105,078	....	....
1897,	3	2,043,751	—61,327	....
1898,	3	2,031,622	—12,129	—73,456

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$12,815,696	....	....
1897,	4	12,848,743	+$33,047	....
1898,	4	13,893,503	+1,044,760	+$1,077,807
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	651,100	....	....
1897,	8	651,100	....	....
1898,	8	648,100	—3,000	—3,000
SAFES AND VAULT DOORS.				
1896,	2	80,000	....	....
1897,	2	68,000	—12,000	....
1898,	2	68,000	....	—12,000
IRON BEDS.				
1896,	2	5,400	....	....
1897,	2	6,900	+1,500	....
1898,	2	6,900	....	+1,500
ORNAMENTAL METAL WORK.				
1896,	2	300,000	....	....
1897,	2	336,000	+36,000	....
1898,	2	398,676	+62,676	+98,676
METAL AND METALLIC GOODS.				
1896,	3	280,400	....	....
1897,	3	280,400	....	....
1898,	3	390,000	+109,600	+109,600

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	$73,000	....	....
1897,	1	73,000	....	....
1898,	1	73,000	....	....
STRUCTURAL IRON WORK.				
1896,	1	750,000	....	....
1897,	1	750,000	....	....
1898,	1	750,000	....	....
IRON CHAINS.				
1896,	5	253,542	....	....
1897,	5	258,542	+$5,000	....
1898,	5	264,542	+6,000	+$11,000
IRON FENCES AND RAILING.				
1896,	7	40,500	....	....
1897,	7	42,500	+2,000	....
1898,	7	46,000	+3,500	+5,500
AGRICULTURAL IMPLEMENTS.				
1896,	13	2,205,000	....	....
1897,	13	2,207,000	+2,000	....
1898,	13	2,243,000	+36,000	+38,000
STEAM PUMPS.				
1896,	2	280,000	....	....
1897,	2	376,974	+96,974	....
1898,	2	380,871	+3,897	+100,871

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$300,000	....	....
1897,	4	353,000	+$53,000	....
1898,	4	355,000	+2,000	+$55,000
PIANOS AND ORGANS.				
1896,	4	336,000	....	....
1897,	4	336,000	....	....
1898,	4	402,000	+66,000	+66,000
TINWARE.				
1896,	5	372,700	....	....
1897,	5	374,000	+1,300	....
1898,	5	374,000	....	+1,300
PAPER MANUFACTORIES.				
1896,	10	4,443,228	....	....
1897,	10	4,902,464	+459,236	....
1898,	10	5,081,734	+179,270	+638,506
WALL PAPER.				
1896,	5	460,000	....	....
1897,	5	545,500	+85,500	....
1898,	5	560,500	+15,000	+100,500
CIGARS.				
1896,	50	3,055,477	....	....
1897,	50	3,265,251	+209,774	....
1898,	50	3,242,190	—23,061	+186,713

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$125,000	....	....
1897,	3	126,500	+$1,500	....
1898,	3	130,000	+3,500	+$5,000
CORDAGE, ROPE AND TWINE.				
1896,	6	3,265,000	....	....
1897,	6	3,265,000	....	....
1898,	6	3,275,000	+10,000	+10,000
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	1,491,067	....	....
1897,	27	1,504,284	+13,217	....
1898,	27	1,489,559	—14,725	—1,508
POTTERY.				
1896,	3	535,000	....	....
1897,	3	585,000	+50,000	....
1898,	3	585,000	....	+50,000
PAVING BRICK.				
1896,	9	571,200	....	....
1897,	9	611,500	+40,300	....
1898,	9	639,644	+28,144	+68,444
BUILDING BRICK.				
1896,	41	4,546,100	....	....
1897,	41	4,575,107	+29,007	....
1898,	41	4,367,786	—207,321	—178,314

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$2,240,600	....	....
1897,	18	2,421,783	+$181,183	....
1898,	18	2,556,283	+134,500	+$315,683
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	1,221,451	....	....
1897,	7	1,241,800	+20,349	....
1898,	7	1,222,007	—19,793	+556
SCHOOL SLATES.				
1896,	3	98,000	....	....
1897,	3	87,000	—11,000	....
1898,	3	87,000	....	—11,000
SLATE ROOFING, ETC., SQUARES.				
1896,	17	746,913	....	....
1897,	17	757,914	+11,001	....
1898,	17	951,913	+193,999	+205,000
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	15,597,800	....	....
1897,	30	15,616,882	+19,082	....
1898,	30	15,491,329	—125,553	—106,471
GLAZED AND CHROME KID.				
1896,	7	3,857,983	....	....
1897,	7	4,068,915	+210,932	....
1898,	7	4,163,993	+95,078	+306,010

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$2,502,618	....	....
1897,	18	2,615,705	+$113,087	....
1898,	18	2,735,870	+120,165	+$233,252
SUSPENDERS.				
1896,	2	82,000	....	....
1897,	2	92,000	+10,000	....
1898,	2	95,000	+3,000	+13,000
HATS AND CAPS.				
1896,	3	273,592	....	....
1897,	3	307,789	+34,197	....
1898,	3	296,776	—11,013	+23,184
FUR AND FELT HATS.				
1896,	5	2,773,726	....	....
1897,	5	2,782,743	+9,017	....
1898,	5	2,775,406	—7,337	+1,680
WOOL HATS.				
1896,	8	418,997	....	....
1897,	8	504,035	+85,038	....
1898,	8	558,635	+54,600	+139,638
UMBRELLAS AND PARASOLS.				
1896,	6	450,435	....	....
1897,	6	437,000	—13,435	....
1898,	6	355,000	—82,000	—95,435

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$1,158,296	....	....
1897,	8	1,176,796	+$18,500	....
1898,	8	1,229,296	+52,500	+$71,000
SHIRTS AND SHIRT WAISTS.				
1896,	11	941,300	....	....
1897,	11	958,300	+17,000	....
1898,	11	985,200	+26,900	+43,900
NECK WEAR.				
1896,	5	179,584	....	....
1897,	5	174,099	—5,485	....
1898,	5	146,977	—27,122	—32,607
COTTON AND WOOLEN CLOTHS.				
1896,	26	3,393,847	....	....
1897,	26	3,519,446	+125,599	....
1898,	26	3,518,646	—800	+124,799
CARPETS.				
1896,	20	3,390,625	....	....
1897,	20	3,480,181	+89,556	....
1898,	20	3,579,213	+99,032	+188,588
CLOTHING.				
1896,	9	1,744,534	....	....
1897,	9	1,761,016	+16,482	....
1898,	9	1,627,101	—133,915	—117,433

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$2,502,618	....	....
1897,	18	2,615,705	+$113,087	....
1898,	18	2,735,870	+120,165	+$233,252
SUSPENDERS.				
1896,	2	82,000	....	....
1897,	2	92,000	+10,000	....
1898,	2	95,000	+3,000	+13,000
HATS AND CAPS.				
1896,	3	273,592	....	....
1897,	3	307,789	+34,197	....
1898,	3	296,776	—11,013	+23,184
FUR AND FELT HATS.				
1896,	5	2,773,726	....	....
1897,	5	2,782,743	+9,017	....
1898,	5	2,775,406	—7,337	+1,680
WOOL HATS.				
1896,	8	418,997	....	....
1897,	8	504,085	[illegible]	[illegible]
1898,	8	[illegible]	[illegible]	[illegible]
UMBRELLAS AND PARASOLS.				
1896,	[illegible]	[illegible]	[illegible]	[illegible]
1897,	[illegible]	[illegible]	[illegible]	[illegible]
1898,	[illegible]	[illegible]	[illegible]	[illegible]

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$1,158,296	....	....
1897,	8	1,176,796	+$18,500	....
1898,	8	1,229,296	+52,500	+$71,000
SHIRTS AND SHIRT WAISTS.				
1896,	11	941,300	....	....
1897,	11	958,300	+17,000	....
1898,	11	985,200	+26,900	+43,900
NECK WEAR.				
1896,	5	179,584	....	....
1897,	5	174,099	—5,485	....
1898,	5	146,977	—27,122	[illegible]
COTTON AND WOOLEN CLOTHS.				
1896,	26	3,393,847	.....	....
1897,	26	3,519,446	[illegible]	
1898,	26	3,518,646	—800	[illegible]
CARPETS.				
1896,	20	[illegible]		
1897,	20	[illegible]	[illegible]	
1898,	20	[illegible]	[illegible]	[illegible]
[illegible]				
[illegible]	[illegible]	[illegible]		
[illegible]	[illegible]	[illegible]	[illegible]	
[illegible]	[illegible]	[illegible]	[illegible]	

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$3,177,649	....	....
1897,	20	3,235,764	+$58,115	....
1898,	20	3,303,271	+67,507	+$125,622
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,559,817	....	....
1897,	13	1,601,733	+41,916	....
1898,	13	1,563,184	—38,549	+3,367
WOOLEN AND WORSTED FABRICS.				
1896,	17	2,994,836	....	....
1897,	17	3,180,727	+185,891	....
1898,	17	3,327,892	+147,165	+333,056
WOOLEN AND WORSTED YARNS.				
1896,	13	3,169,270	....	....
1897,	13	2,519,270	—650,000	....
1898,	13	3,416,000	+896,730	+246,730
RUGS, YARNS, ETC.				
1896,	6	5,996,733	....	....
1897,	6	5,579,779	—416,954	....
1898,	6	5,692,824	+113,045	—303,909
CARPET YARNS.				
1896,	12	998,500	....	....
1897,	12	1,012,575	+14,075	....
1898,	12	1,008,008	—4,567	+9,508

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$1,300,209	....	....
1897,	8	1,302,175	+$1,966	....
1898,	8	1,311,037	+8,862	+$10,828
WORSTED YARNS.				
1896,	9	2,015,617	....	....
1897,	9	2,124,920	+109,303	....
1898,	9	2,139,560	+14,640	+123,943
COTTON AND WOOLEN YARNS.				
1896,	5	883,000	....	....
1897,	5	978,015	+95,015	....
1898,	5	978,491	+476	+95,491
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	669,730	....	....
1897,	5	687,000	+17,270	....
1898,	5	696,500	+9,500	+26,770
LACE GOODS.				
1896,	3	741,000	....	....
1897,	3	741,300	+300	....
1898,	3	795,000	+53,700	+54,000
CHENILLE GOODS.				
1896,	4	485,000	....	....
1897,	4	485,000	....	....
1898,	4	485,000	....	....

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$3,177,649	....	....
1897,	20	3,235,764	+$58,115	....
1898,	20	3,303,271	+67,507	+$125,622
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,559,817	....	....
1897,	13	1,601,733	+41,916	....
1898,	13	1,563,184	—38,549	+3,367
WOOLEN AND WORSTED FABRICS.				
1896,	17	2,994,836	....	....
1897,	17	3,180,727	+185,891	....
1898,	17	3,327,892	+147,165	+333,056
WOOLEN AND WORSTED YARNS.				
1896,	13	3,169,270	....	....
1897,	13	2,519,270	—650,000	....
1898,	13	3,416,000	+896,730	+246,730
RUGS, YARNS, ETC.				
1896,	6	5,996,733	....	....
1897,	6	5,579,779	—416,954	....
1898,	6	5,692,824	+113,045	—303,909
CARPET YARNS.				
1896,	12	998,500	....	....
1897,	12	1,012,575	+14,075	....
1898,	12	1,008,008	—4,567	+9,508

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$1,300,209	....	....
1897,	8	1,302,175	+$1,966	....
1898,	8	1,311,037	+8,862	+$10,828
WORSTED YARNS.				
1896,	9	2,015,617	....	....
1897,	9	2,124,920	+109,303	....
1898,	9	2,139,560	+14,640	+123,943
COTTON AND WOOLEN YARNS.				
1896,	5	883,000	....	....
1897,	5	978,015	+95,015	....
1898,	5	978,491	+476	+95,491
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	669,730	....	....
1897,	5	687,000	+17,270	....
1898,	5	696,500	+9,500	+26,770
LACE GOODS.				
1896,	3	741,000	....	....
1897,	3	741,300	+300	....
1898,	3	795,000	+53,700	+54,000
CHENILLE GOODS.				
1896,	4	485,000	....	....
1897,	4	485,000	....	....
1898,	4	485,000	....	....

CAPITAL INVESTED—Continued.

COMPARISON OF CAPITAL INVESTED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Capital.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$1,857,322	....	....
1897,	10	1,875,721	+$8,399	....
1898,	10	1,856,148	—19,573	—$11,174
KNIT GOODS, UNDERWEAR.				
1896,	16	1,835,000	....	....
1897,	16	1,884,500	+49,500	....
1898,	16	1,920,100	+35,600	+85,100
HOSIERY.				
1896,	34	2,192,318	....	....
1897,	34	2,361,951	+169,633	....
1898,	34	2,555,041	+193,090	+362,723
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	1,874,700	....	....
1897,	7	1,924,700	+50,000	....
1898,	7	2,277,500	+352,800	+402,800
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	1,675,000	....	....
1897,	3	1,675,000	....	....
1898,	3	1,685,000	+10,000	+10,000
SILKS—RIBBONS.				
1896,	4	311,882	....	....
1897,	4	394,180	+82,298	....
1898,	4	445,313	+51,133	+133,431

BASIC MATERIAL.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the aggregate cost of basic material by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered. In basic material is not included fuel or other item than that crude material out of which the product is produced.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$418,609	....	....
1897,	7	402,115	—$16,494	....
1898,	7	517,448	+115,333	+$98,839
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	5,734,106	....	....
1897,	5	7,368,078	+1,633,972	....
1898,	5	8,290,732	+922,654	+2,556,626
TOOL STEEL.				
1896,	2	143,347	....	....
1897,	2	72,338	—71,009	....
1898,	2	86,525	+14,187	—56,822
IRON AND STEEL SPECIALTIES.				
1896,	3	41,161	....	....
1897,	3	44,507	+3,346	....
1898	3	28,028	—16,479	—13,133
IRON AND STEEL FORGINGS.				
1896,	7	141,286	....	....
1897,	7	122,710	—18,576	....
1898,	7	157,035	+34,325	+15,749

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	$47,113	....	....
1897,	2	77,228	+$30,115	....
1898,	2	45,879	—31,349	—$1,234
MALLEABLE IRON.				
1896,	4	590,308	....	....
1897,	4	455,890	—134,418	....
1898,	4	698,054	+242,164	+107,746
BOLTS, NUTS, ETC.				
1896,	8	600,739	....	....
1897,	8	591,791	—8,948	....
1898,	8	713,906	+122,115	+113,167
SPIKES AND RIVETS.				
1896,	2	109,498	....	....
1897,	2	99,564	—9,934	....
1898,	2	109,443	+9,879	—55
WIRE NAILS.				
1896,	3	417,134	....	....
1897,	3	792,350	+375,216	....
1898,	3	475,780	—316,570	+58,646
TACKS AND SMALL NAILS.				
1896,	4	48,253	....	....
1897,	4	40,862	—7,391	....
1898,	4	35,049	—5,813	—13,204

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	$147,605	....	....
1897,	6	151,647	+$4,042	....
1898,	6	192,883	+41,236	+$45,278
WIRE ROPE.				
1896,	2	292,275	....	....
1897,	2	230,111	—62,164	....
1898,	2	248,135	+18,024	—44,140
WIRE GOODS.				
1896,	4	20,611	....	....
1897,	4	31,563	+10,952	....
1898,	4	37,195	+5,632	+16,584
WAGON AND CARRIAGE AXLES.				
1896,	4	140,166	....	....
1897,	4	145,815	+5,649	....
1898,	4	126,841	—18,974	—13,325
CARRIAGE AND WAGON SPRINGS.				
1896,	2	30,822	....	....
1897,	2	22,096	—8,726	....
1898,	2	20,082	—2,014	—10,740
SCALES, ETC.				
1896,	5	83,428	....	....
1897,	5	88,826	+5,398	....
1898,	5	92,725	+3,899	+9,297

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	$862,626	....	....
1897,	39	860,896	—$1,730	....
1898,	39	885,939	+25,043	+$23,313
BATH BOILERS, TANKS, ETC.				
1896,	2	33,394	....	....
1897,	2	31,163	—2,231	....
1898,	2	30,676	—487	—2,718
HARDWARE SPECIALTIES.				
1896,	14	637,416	....	....
1897,	14	668,089	+30,673	....
1898,	14	701,185	+33,096	+63,769
EDGE TOOLS.				
1896,	12	453,478	....	....
1897,	12	223,034	—230,444	....
1898,	12	293,289	+70,255	—160,189
WRENCHES, PICKS, ETC.				
1896,	5	118,234	....	....
1897,	5	152,785	+34,551	....
1898,	5	143,063	—9,722	+24,829
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	3,738,754	....	....
1897,	3	3,276,309	—507,445	....
1898,	3	4,191,152	+914,843	+452,398

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$472,791	....	....
1897,	3	431,855	—$40,936	....
1898,	3	624,015	+192,160	+$151,224
CAR WHEELS AND CAR AXLES.				
1896,	2	167,114	....	....
1897,	2	164,452	+2,662	....
1898,	2	133,905	—30,547	—33,209
FREIGHT AND STREET CARS, ETC.				
1896,	4	426,648	....	....
1897,	4	218,958	—207,690	....
1898,	4	605,723	+386,765	+179,075
WROUGHT IRON PIPE AND TUBES.				
1896,	5	7,973,945	....	....
1897,	5	7,101,673	—872,272	....
1898,	5	8,285,486	+1,183,813	+311,541
CAST IRON PIPE.				
1896,	3	573,580	....	....
1897,	3	767,967	+194,387	....
1898,	3	810,511	+42,544	+236,931
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	1,257,155	....	....
1897,	22	1,216,281	—40,874	....
1898,	22	1,486,962	+270,681	+229,807

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$2,008,501	....	....
1897,	8	1,731,721	—$276,780	....
1898,	8	2,126,144	+394,423	+$117,643
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	4,229,510	....	....
1897,	9	3,933,971	—295,539	....
1898,	9	5,386,109	+1,452,138	+1,156,599
ENGINES, BOILERS, ETC.				
1896,	10	1,557,093	....	....
1897,	10	1,325,287	—231,806	....
1898,	10	1,514,153	+188,866	—42,940
RAILWAY SWITCHES, ETC.				
1896,	2	815,001	....	....
1897,	2	723,597	—91,404	....
1898,	2	793,723	+70,126	+21,278
RAILWAY SUPPLIES.				
1896,	1	389,224	....	....
1897,	1	400,000	+10,776	....
1898,	1	600,000	+200,000	+210,776
IRON VESSELS AND ENGINES.				
1896,	4	2,123,809	....	....
1897,	4	2,191,961	+68,152	....
1898,	4	2,997,076	+805,115	+873,267

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$761,415	....	....
1897,	21	863,908	+$102,493	....
1898,	21	1,172,463	+308,555	+$411,048
MACHINERY.				
1896,	21	1,741,304	....	....
1897,	21	1,698,519	—42,785	....
1898,	21	2,030,334	+331,815	+289,030
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	875,986	....	....
1897,	25	1,049,859	+173,873	....
1898,	25	1,263,302	+213,443	+387,316
FILES, ETC.				
1896,	2	95,440	....	....
1897,	2	92,201	—3,239	....
1898,	2	82,739	—9,462	—12,701
SAWS.				
1896,	3	37,000	....	....
1897,	3	26,812	—10,188	....
1898,	3	28,087	+1,275	—8,913
PLUMBER SUPPLIES.				
1896,	3	*	....	....
1897,	3	*	....	....
1898,	3	*	....	....

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*Incomplete returns.

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$1,337,362	....	....
1897,	4	1,365,199	+$27,837	....
1898,	4	2,340,407	+975,208	+$1,003,045
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	313,871	....	....
1897,	8	276,019	—37,852	....
1898,	8	296,298	+20,279	—17,573
SAFES AND VAULT DOORS.				
1896,	2	66,274	....	....
1897,	2	63,173	—3,101	....
1898,	2	65,984	+2,811	—290
IRON BEDS.				
1896,	2	10,559	....	....
1897,	2	8,955	—1,604	....
1898,	2	7,540	—1,415	—3,019
ORNAMENTAL METAL WORK.				
1896,	2	178,406	....	....
1897,	2	178,204	—202	....
1898,	2	221,243	+43,039	+42,837
METAL AND METALLIC GOODS.				
1896,	3	47,136	....	....
1897,	3	50,060	+2,924	....
1898,	3	58,176	+8,116	+11,040

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	$20,631	....	....
1897,	1	20,158	—$473	....
1898,	1	20,599	+441	—32
STRUCTURAL IRON WORK.				
1896,	1	501,953	....	....
1897,	1	666,741	+164,788	....
1898,	1	1,220,737	+553,996	+718,784
IRON CHAINS.				
1896,	5	127,022	....	....
1897,	5	126,244	—778	....
1898,	5	165,742	+39,498	+38,720
IRON FENCES AND RAILING.				
1896,	7	47,937	....	....
1897,	7	58,623	+10,686	....
1898,	7	81,971	+23,348	+34,034
AGRICULTURAL IMPLEMENTS.				
1896,	13	1,055,157	....	....
1897,	13	1,053,199	—1,958	....
1898,	13	1,211,977	+158,778	+156,820
STEAM PUMPS.				
1896,	2	146,725	....	....
1897,	2	127,524	—19,201	....
1898,	2	123,813	—3,711	—22,912

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$456,736	....	....
1897,	4	555,666	+$98,930	....
1898,	4	539,652	—16,014	+$82,916
PIANOS AND ORGANS.				
1896,	4	109,014	....	....
1897,	4	109,435	+421	....
1898,	4	132,931	+23,496	+23,917
TINWARE.				
1896,	5	218,233	....	....
1897,	5	216,243	—1,990	....
1898,	5	217,433	+1,190	—800
PAPER MANUFACTORIES.				
1896,	10	1,689,061	....	....
1897,	10	1,562,749	—126,312	....
1898,	10	1,526,966	—35,783	—162,095
WALL PAPER.				
1896,	5	545,913	....	....
1897,	5	639,158	+93,245	....
1898,	5	754,409	+115,251	+208,496
CIGARS.				
1896,	50	2,930,050	....	....
1897,	50	3,462,289	+532,239	....
1898,	50	3,868,072	+405,783	+938,022

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$62,699	....	....
1897,	3	62,018	—$681	....
1898,	3	65,522	+3,504	+$2,823
CORDAGE, ROPE AND TWINE.				
1896,	6	3,369,846	....	....
1897,	6	3,491,548	+121,702	....
1898,	6	3,532,381	+40,833	+162,535
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	936,025	....	....
1897,	27	967,556	+31,531	....
1898,	27	1,044,300	+76,744	+108,275
POTTERY.				
1896,	3	73,655	....	....
1897,	3	72,400	—1,255	....
1898,	3	73,789	+1,389	+134
PAVING BRICK.				
1896,	9	40,586	....	....
1897,	9	32,756	—7,830	....
1898,	9	29,613	—3,143	—10,973
BUILDING BRICK.				
1896,	41	192,643	....	....
1897,	41	178,207	—14,436	....
1898,	41	177,769	—438	—14,874

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$423,138	....	....
1897,	18	382,434	—$40,704	....
1898,	18	418,484	+36,050	—$4,654
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	32,540	....	....
1897,	7	40,436	+7,896	....
1898,	7	37,321	—3,115	+4,781
SCHOOL SLATES.				
1896,	3	68,931	....	....
1897,	3	77,915	+8,984	....
1898,	3	75,115	—2,800	+6,184
SLATE ROOFING, ETC., SQUARES.				
1896,	17	66,817	....	....
1897,	17	74,911	+8,094	....
1898,	17	77,329	+2,418	+10,512
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	2,172,848	....	....
1897,	30	2,296,155	+123,307	....
1898,	30	2,063,073	—233,082	—109,775
GLAZED AND CHROME KID.				
1896,	7	5,635,016	....	....
1897,	7	7,036,904	+1,401,888	....
1898,	7	8,092,540	+1,055,636	+2,457,524

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$3,221,688	....	....
1897,	18	3,553,381	+$331,693	....
1898,	18	3,782,316	+228,935	+$560,628
SUSPENDERS.				
1896,	2	200,936	....	....
1897,	2	233,500	+32,564	....
1898,	2	245,000	+11,500	+44,064
HATS AND CAPS.				
1896,	3	284,490	....	....
1897,	3	418,877	+134,387	....
1898,	3	377,205	—41,672	+92,715
FUR AND FELT HATS.				
1896,	5	443,621	....	....
1897,	5	476,658	+33,037	....
1898,	5	494,817	+18,159	+51,196
WOOL HATS.				
1896,	8	305,381	....	....
1897,	8	377,733	+72,352	....
1898,	8	348,178	—29,555	+42,797
UMBRELLAS AND PARASOLS.				
1896,	6	815,202	....	....
1897,	6	865,091	+49,889	....
1898,	6	860,178	—4,913	+44,976

BASIC MATERIAL Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$536,719	....	....
1897,	8	685,631	+$148,912	....
1898,	8	876,508	+190,877	+$339,789
SHIRTS AND SHIRT WAISTS.				
1896,	11	1,022,287	....	....
1897,	11	1,012,614	—9,673	....
1898,	11	1,170,664	+158,050	+148,377
NECK WEAR.				
1896,	5	281,387	....	....
1897,	5	255,057	—26,330	....
1898,	5	245,705	—9,352	—35,682
COTTON AND WOOLEN CLOTHS.				
1896,	26	2,980,495	....	....
1897,	26	3,874,071	+893,576	....
1898,	26	3,880,272	+6,201	+899,777
CARPETS.				
1896,	20	2,332,148	....	....
1897,	20	3,077,136	+744,988	....
1898,	20	3,040,388	—36,748	+708,240
CLOTHING.				
1896,	9	1,578,537	....	....
1897,	9	1,286,814	—291,723	....
1898,	9	1,577,942	+291,128	—595

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$1,659,827	....	....
1897,	20	1,748,664	+$88,837	....
1898,	20	1,739,401	—9,263	+$79,574
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,146,398	....	....
1897,	13	1,576,283	+429,885	....
1898,	13	1,682,034	+105,751	+535,636
WOOLEN AND WORSTED FABRICS.				
1896,	17	2,093,613	....	....
1897,	17	2,981,503	+887,890	....
1898,	17	3,071,629	+90,126	+978,016
WOOLEN AND WORSTED YARNS.				
1896,	13	1,953,445	....	....
1897,	13	2,512,458	+559,013	....
1898,	13	2,461,312	—51,146	+507,867
RUGS, YARNS, ETC.				
1896,	6	2,176,255	....	....
1897,	6	2,174,431	—1,824	....
1898,	6	2,010,467	—163,964	—165,788
CARPET YARNS.				
1896,	12	889,240	....	....
1897,	12	1,326,068	+436,828	....
1898,	12	980,471	—345,597	+91,231

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$778,744	....	....
1897,	8	775,158	—$3,586	....
1898,	8	792,559	+17,401	+$13,815
WORSTED YARNS.				
1896,	9	1,338,892	....	....
1897,	9	2,059,975	+721,083	....
1898,	9	1,792,724	—267,251	+453,832
COTTON AND WOOLEN YARNS.				
1896,	5	487,965	....	....
1897,	5	528,826	+40,861	....
1898,	5	490,796	—38,030	+2,831
WOOLEN, BLANKETS, FLANNELS, ETC.				
1896,	5	620,465	....	....
1897,	5	638,333	+17,868	....
1898,	5	1,133,808	+495,475	+513,343
LACE GOODS.				
1896,	3	190,499	....	....
1897,	3	252,059	+61,560	....
1898,	3	290,322	+38,263	+99,823
CHENILLE GOODS.				
1896,	4	307,395	....	....
1897,	4	345,695	+38,300	....
1898,	4	376,595	+30,900	+69,200

BASIC MATERIAL—Continued.

COMPARISON OF AGGREGATE COST OF BASIC MATERIAL—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Basic material.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$1,427,820	....	....
1897,	10	1,498,449	+$70,629	....
1898,	10	1,626,165	+127,716	+$198,345
KNIT GOODS, UNDERWEAR.				
1896,	16	1,897,765	....	....
1897,	16	2,111,074	+213,309	....
1898,	16	2,206,272	+95,198	+308,507
HOSIERY.				
1896,	34	1,724,879	....	....
1897,	34	2,215,839	+490,960	....
1898,	34	2,410,810	+194,971	+685,931
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	2,441,078	....	....
1897,	7	3,397,403	+956,325	....
1898,	7	3,818,644	+421,241	+1,377,566
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	732,000	....	....
1897,	3	1,025,655	+293,655	....
1898,	3	1,220,000	+194,345	+488,000
SILKS—RIBBONS.				
1896,	4	309,883	....	....
1897,	4	459,658	+149,775	....
1898,	4	514,851	+55,193	+204,968

DAYS IN OPERATION.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the average number of days of employment by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	290	......	.....
1897,	7	310	+20	......
1898,	7	310	......	+20
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	204	......	......
1897,	5	291	+87	......
1898,	5	285	—6	+81
TOOL STEEL.				
1896,	2	267	......	......
1897,	2	250	—17	......
1898,	2	321	+71	+54
IRON AND STEEL SPECIALTIES.				
1896,	3	297	......	......
1897,	3	285	—12	......
1898,	3	287	+2	—10
IRON AND STEEL FORGINGS.				
1896,	7	256	......	......
1897,	7	281	+25	......
1898,	7	293	+12	+37

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	301	......	......
1897,	2	301	......	......
1898,	2	301	......	......
MALLEABLE IRON.				
1896,	4	292	......	......
1897,	4	292	......	......
1898,	4	298	+6	+6
BOLTS, NUTS, ETC.				
1896,	8	235	....	......
1897,	8	262	+27	......
1898,	8	274	+12	+39
SPIKES AND RIVETS.				
1896,	2	279	......	......
1897,	2	284	+5	......
1898,	2	291	+7	+12
WIRE NAILS.				
1896,	3	236	......	......
1897,	3	247	+11	......
1898,	3	180	—67	—56
TACKS AND SMALL NAILS.				
1896,	4	226	......	......
1897,	4	209	—17	......
1898,	4	248	+39	+22

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	289	......	......
1897,	6	271	—18	......
1898,	6	311	+40	+22
WIRE ROPE.				
1896,	2	302	......	......
1897,	2	303	+1	......
1898,	2	303	......	+1
WIRE GOODS.				
1896,	4	290	......	......
1897,	4	299	+9	......
1898,	4	303	+4	+13
WAGON AND CARRIAGE AXLES.				
1896,	4	252	......	......
1897,	4	278	+26	......
1898,	4	292	+14	+40
CARRIAGE AND WAGON SPRINGS.				
1896,	2	271	......	......
1897,	2	260	—11	......
1898,	2	269	+9	—2
SCALES, ETC.				
1896,	5	278	......	......
1897,	5	287	+9	......
1898,	5	299	+12	+21

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STOVES, RANGES, HEATERS, ETC.				
1896,	39	209	......	......
1897,	39	228	+19	......
1898,	39	237	+9	+28
BATH BOILERS, TANKS, ETC.				
1896,	2	309	......	......
1897,	2	305	—4	......
1898,	2	302	—3	—7
HARDWARE SPECIALTIES.				
1896,	14	260	......	......
1897,	14	270	+10	......
1898,	14	256	—14	—4
EDGE TOOLS.				
1896,	12	246	......	......
1897,	12	227	—19	......
1898,	12	291	+64	+45
WRENCHES, PICKS, ETC.				
1896,	5	240	......	......
1897,	5	266	+26	......
1898,	5	283	+17	+43
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	273	......	......
1897,	3	282	+9	......
1898,	3	296	+14	+23

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	281	......	......
1897,	3	279	—2	......
1898,	3	297	+18	+16
CAR WHEELS AND CAR AXLES.				
1896,	2	286	......	......
1897,	2	289	+3	......
1898,	2	308	+19	+22
FREIGHT AND STREET CARS, ETC.				
1896,	4	171	......	......
1897,	4	218	+47	......
1898,	4	269	+51	+98
WROUGHT IRON PIPE AND TUBES.				
1896,	5	283	......	......
1897,	5	298	+15	......
1898,	5	303	+5	+20
CAST IRON PIPE.				
1896,	3	303	......	......
1897,	3	302	—1	......
1898,	3	296	—6	—7
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	296	......	......
1897,	22	294	—2	......
1898,	22	298	+4	+2

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	294	......	......
1897,	8	298	+4	......
1898,	8	302	+4	+8
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	306	......	......
1897,	9	306	......	......
1898,	9	305	—1	—1
ENGINES, BOILERS, ETC.				
1896,	10	295	......	......
1897,	10	294	—1	......
1898,	10	304	+10	+9
RAILWAY SWITCHES, ETC.				
1896,	2	284	......	......
1897,	2	306	+22	......
1898,	2	305	—1	+21
RAILWAY SUPPLIES.				
1896,	1	291	......	......
1897,	1	300	+9	......
1898,	1	300	......	+9
IRON VESSELS AND ENGINES.				
1896,	4	306	......	......
1897,	4	305	—1	......
1898,	4	304	—1	—2

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	286	......	......
1897,	21	285	—1	......
1898,	21	291	+6	+5
MACHINERY.				
1896,	21	301	......	......
1897,	21	309	+8	......
1898,	21	300	—9	—1
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	286	......	......
1897,	25	295	+9	......
1898,	25	296	+1	+10
FILES, ETC.				
1896,	2	275	......	......
1897,	2	266	—9	......
1898,	2	278	+12	+3
SAWS.				
1896,	3	229	......	......
1897,	3	210	—19	......
1898,	3	244	+34	+15
PLUMBER SUPPLIES.				
1896,	3	281	......	......
1897,	3	269	—12	......
1898,	3	290	+21	+9

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	289	......	......
1897,	4	297	+8	......
1898,	4	301	+4	+12
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	210	......	......
1897,	8	219	+9	......
1898,	8	246	+27	+36
SAFES AND VAULT DOORS.				
1896,	2	307	......	......
1897,	2	301	—6	......
1898,	2	298	—3	—9
IRON BEDS.				
1896,	2	215	......	......
1897,	2	296	+81	......
1898,	2	305	+9	+90
ORNAMENTAL METAL WORK.				
1896,	2	302	......	......
1897,	2	295	—7	......
1898,	2	297	+2	—5
METAL AND METALLIC GOODS.				
1896,	3	234	......	......
1897,	3	258	+24	......
1898,	3	255	—3	+21

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	300	......	......
1897,	1	300	......	......
1898,	1	304	+4	+4
STRUCTURAL IRON WORK.				
1896,	1	301	......	......
1897,	1	303	+2	......
1898,	1	307	+4	+6
IRON CHAINS.				
1896,	5	264	......	......
1897,	5	272	+8	......
1898,	5	298	+26	+34
IRON FENCES AND RAILING.				
1896,	7	293	......	......
1897,	7	298	+5	......
1898,	7	305	+7	+12
AGRICULTURAL IMPLEMENTS.				
1896,	13	285	......	......
1897,	13	293	+8	......
1898,	13	300	+7	+15
STEAM PUMPS.				
1896,	2	307	......	......
1897,	2	307	......	......
1898,	2	304	—3	—3

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	274	......	......
1897,	4	280	+6	......
1898,	4	277	—3	+3
PIANOS AND ORGANS.				
1896,	4	293	......	......
1897,	4	295	+2	......
1898,	4	287	—8	—6
TINWARE.				
1896,	5	301	......	......
1897,	5	301	......	......
1898,	5	300	—1	—1
PAPER MANUFACTORIES.				
1896,	10	262	......	......
1897,	10	277	+15	......
1898,	10	281	+4	+19
WALL PAPER.				
1896,	5	238	......	......
1897,	5	266	+28	......
1898,	5	274	+8	+36
CIGARS.				
1896,	50	284	......	......
1897,	50	290	+6	......
1898,	50	293	+3	+9

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	301	......	......
1897,	3	280	—21	......
1898,	3	283	+3	—18
CORDAGE, ROPE AND TWINE.				
1896,	6	288	......	......
1897,	6	317	+29	......
1898,	6	312	—5	+24
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	297	......	......
1897,	27	301	+4	......
1898,	27	302	+1	+5
POTTERY.				
1896,	3	283	......	......
1897,	3	279	—4	......
1898,	3	289	+10	+6
PAVING BRICK.				
1896,	9	246	......	......
1897,	9	244	—2	......
1898,	9	229	—15	—17
BUILDING BRICK.				
1896,	41	224	......	......
1897,	41	217	—7	......
1898,	41	213	—4	—11

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	283	......	......
1897,	18	281	—2	......
1898,	18	243	—38	—40
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	234	......	......
1897,	7	230	—4	......
1898,	7	248	+18	+14
SCHOOL SLATES.				
1896,	3	189	......	......
1897,	3	234	+45	......
1898,	3	205	—29	+16
SLATE ROOFING, ETC., SQUARES.				
1896,	17	240	......	......
1897,	17	240	......	......
1898,	17	181	—59	—59
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	238	......	......
1897,	30	255	+17	......
1898,	30	261	+6	+23
GLAZED AND CHROME KID.				
1896,	7	299	......	......
1897,	7	301	+2	......
1898,	7	298	—3	—1

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	280	......	......
1897,	18	291	+11	......
1898,	18	288	—3	+8
SUSPENDERS.				
1896,	2	295	......	......
1897,	2	403	+108	......
1898,	2	297	—106	+2
HATS AND CAPS.				
1896,	3	284	......	......
1897,	3	289	+5	......
1898,	3	286	—3	+2
FUR AND FELT HATS.				
1896,	5	307	......	......
1897,	5	308	+1	......
1898,	5	307	—1	......
WOOL HATS.				
1896,	8	266	......	......
1897,	8	254	—12	......
1898,	8	273	+19	+7
UMBRELLAS AND PARASOLS.				
1896,	6	307	......	......
1897,	6	307	......	......
1898,	6	308	+1	+1

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	287	......	......
1897,	8	295	+8	......
1898,	8	298	+3	+11
SHIRTS AND SHIRT WAISTS.				
1896,	11	284	......	......
1897,	11	296	+12	......
1898,	11	297	+1	+13
NECK WEAR.				
1896,	5	301	....	......
1897,	5	303	+2	....
1898,	5	304	+1	+3
COTTON AND WOOLEN CLOTHS.				
1896,	26	269	......	......
1897,	26	287	+18	......
1898,	26	265	—22	—4
CARPETS.				
1896,	20	263	......	......
1897,	20	290	+27	......
1898,	20	290	......	+27
CLOTHING.				
1896,	9	281	......	......
1897,	9	300	+19	......
1898,	9	303	+3	+22

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	258	......	......
1897,	20	277	+19	......
1898,	20	289	+12	+31
WOOLEN AND WORSTED CASSIMERES.				
1896,	15	268	......	......
1897,	15	277	+9	......
1898,	15	273	—4	+5
WOOLEN AND WORSTED FABRICS.				
1896,	17	248	......	......
1897,	17	289	+41	......
1898,	17	288	—1	+40
WOOLEN AND WORSTED YARNS.				
1896,	13	251	......	......
1897,	13	290	+39	......
1898,	13	288	—2	+37
RUGS, YARNS, ETC.				
1896,	6	256	......	......
1897,	6	273	+17	......
1898,	6	280	+7	+24
CARPET YARNS.				
1896,	12	264	......	......
1897,	12	295	+31	......
1898,	12	261	—34	—3

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	263	......	......
1897,	8	277	+14	......
1898,	8	294	+17	+31
WORSTED YARNS.				
1896,	9	239	......	......
1897,	9	289	+50	......
1898,	9	273	—16	+34
COTTON AND WOOLEN YARNS.				
1896,	5	269	......	......
1897,	5	291	+22	......
1898,	5	293	+2	+24
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	304	......	......
1897,	5	301	—3	......
1898,	5	351	+50	+47
LACE GOODS.				
1896,	3	274	......	......
1897,	3	296	+22	......
1898,	3	307	+11	+33
CHENILLE GOODS.				
1896,	4	277	......	......
1897,	4	297	+20	......
1898,	4	300	+3	+23

DAYS IN OPERATION—Continued.

COMPARISON OF AVERAGE NUMBER OF DAYS IN OPERATION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average number of days in operation.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	294	......	......
1897,	10	299	+5	......
1898,	10	301	+2	+7
KNIT GOODS, UNDERWEAR.				
1896,	16	271	......	......
1897,	16	289	+18	......
1898,	16	281	—8	+10
HOSIERY.				
1896,	34	257	......	......
1897,	34	289	+32	......
1898,	34	285	—4	+28
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	269	......	......
1897,	7	301	+32	......
1898,	7	290	—11	+21
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	301	......	......
1897,	3	301	......	......
1898,	3	302	+1	+1
SILKS—RIBBONS.				
1896,	4	298	......	......
1897,	4	299	+1	......
1898,	4	299	......	+1

PERSONS EMPLOYED.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the average number of persons employed by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	1,016	......	......
1897,	7	1,068	+52	......
1898,	7	1,363	+295	+347
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	1,404	......	......
1897,	5	1,289	—115	......
1898,	5	1,490	+201	+86
TOOL STEEL.				
1896,	2	150	......	......
1897,	2	149	—1	......
1898,	2	204	+55	+54
IRON AND STEEL SPECIALTIES.				
1896,	3	139	......	......
1897,	3	152	+13	......
1898,	3	131	—21	—8
IRON AND STEEL FORGINGS.				
1896,	7	254	......	......
1897,	7	244	—10	......
1898,	7	318	+74	+64

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	37	......	......
1897,	2	45	+8	......
1898,	2	35	—10	—2
MALLEABLE IRON.				
1896,	4	1,575	......	......
1897,	4	1,404	—171	......
1898,	4	1,640	+236	+65
BOLTS, NUTS, ETC.				
1896,	8	942	......	......
1897,	8	966	+24	......
1898,	8	1,010	+44	+68
SPIKES AND RIVETS.				
1896,	2	46	......	......
1897,	2	51	+5	......
1898,	2	55	+4	+9
WIRE NAILS.				
1896,	3	459	......	......
1897,	3	599	+140	......
1898,	3	615	+16	+156
TACKS AND SMALL NAILS.				
1896,	4	118	......	......
1897,	4	114	—4	......
1898,	4	68	—46	—50

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	132	......	......
1897,	6	150	+18	......
1898,	6	167	+17	+35
WIRE ROPE.				
1896,	2	158	......	......
1897,	2	166	+8	......
1898,	2	190	+24	+32
WIRE GOODS.				
1896,	4	80	......	......
1897,	4	88	+8	......
1898,	4	107	+19	+27
WAGON AND CARRIAGE AXLES.				
1896,	4	310	......	......
1897,	4	313	+3	......
1898,	4	362	+49	+52
CARRIAGE AND WAGON SPRINGS.				
1896,	2	43	......	......
1897,	2	40	—3	......
1898,	2	41	+1	—2
SCALES. ETC.				
1896,	5	120	......	......
1897,	5	131	+11	......
1898,	5	144	+13	+24

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	3,532	......	......
1897,	39	3,628	+96	......
1898,	39	3,712	+84	+180
BATH BOILERS, TANKS, ETC.				
1896,	2	26	......	......
1897,	2	28	+2	......
1898,	2	32	+4	+6
HARDWARE SPECIALTIES.				
1896,	14	2,509	......	......
1897,	14	2,643	+134	......
1898,	14	2,871	+228	+362
EDGE TOOLS.				
1896,	12	818	......	......
1897,	12	827	+9	......
1898,	12	878	+51	+60
WRENCHES, PICKS, ETC.				
1896,	5	248	......	......
1897,	5	293	+45	......
1898,	5	272	—21	+24
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	6,254	......	......
1897,	3	5,742	—512	......
1898,	3	5,965	+223	—289

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896, ...	3	292	......	......
1897, ...	3	300	+8	......
1898, ...	3	369	+69	+77
CAR WHEELS AND CAR AXLES.				
1896, ...	2	211	......	......
1897, ...	2	203	—8	......
1898, ...	2	207	+4	—4
FREIGHT AND STREET CARS, ETC.				
1896, ...	4	588	......	......
1897, ...	4	485	—103	......
1898, ...	4	668	+183	+80
WROUGHT IRON PIPE AND TUBES.				
1896, ...	5	5,324	......	......
1897, ...	5	5,110	—214	......
1898, ...	5	5,693	+583	+369
CAST IRON PIPE.				
1896, ...	3	507	......	......
1897, ...	3	615	+108	......
1898, ...	3	689	+74	+182
BRASS, COPPER AND BRONZE GOODS.				
1896, ...	22	1,414	......	......
1897, ...	22	1,352	—62	......
1898, ...	22	1,532	+180	+118

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	1,169	......	......
1897,	8	1,177	+8	......
1898,	8	1,423	+246	+254
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	5,587	......	......
1897,	9	5,651	+64	......
1898,	9	7,967	+2,316	+2,380
ENGINES, BOILERS, ETC.				
1896,	10	1,922	......	......
1897,	10	1,690	—232	......
1898,	10	1,904	+214	—18
RAILWAY SWITCHES, ETC.				
1896,	2	838	......	......
1897,	2	728	—110	......
1898,	2	886	+158	+48
RAILWAY SUPPLIES.				
1896,	1	311	......	......
1897,	1	500	+189	......
1898,	1	1,000	+500	+689
IRON VESSELS AND ENGINES.				
1896,	4	4,267	......	......
1897,	4	3,706	—561	......
1898,	4	5,384	+1,678	+1,117

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	1,161	......	......
1897,	21	1,128	—33	......
1898,	21	1,386	+258	+225
MACHINERY.				
1896,	21	3,721	......	......
1897,	21	3,853	+132	......
1898,	21	4,434	+581	+713
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	2,127	......	......
1897,	25	2,101	—26	......
1898,	25	2,447	+346	+320
FILES, ETC.				
1896,	2	331	......	......
1897,	2	346	+15	......
1898,	2	369	+23	+38
SAWS.				
1896,	3	56	......	......
1897,	3	50	—6	......
1898,	3	47	—3	—9
PLUMBER SUPPLIES.				
1896,	3	960	......	......
1897,	3	921	—39	......
1898,	3	965	+44	+5

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	2,528	......	......
1897,	4	2,173	—355	......
1898,	4	3,499	+1,326	+971
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	545	......	......
1897,	8	511	—34	......
1898,	8	528	+17	—17
SAFES AND VAULT DOORS.				
1896,	2	128	......	......
1897,	2	125	—3	......
1898,	2	121	—4	—7
IRON BEDS.				
1896,	2	33	......	......
1897,	2	30	—3	......
1898,	2	27	—3	—6
ORNAMENTAL METAL WORK.				
1896,	2	282	......	......
1897,	2	273	—9	......
1898,	2	405	+132	+123
METAL AND METALLIC GOODS.				
1896,	3	194	......	......
1897,	3	207	+13	......
1898,	3	225	+18	+31

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	132	......	......
1897,	1	113	—19	......
1898,	1	127	+14	—5
STRUCTURAL IRON WORK.				
1896,	1	620	......	......
1897,	1	549	—71	......
1898,	1	714	+165	+94
IRON CHAINS.				
1896,	5	231	......	......
1897,	5	231	......	......
1898,	5	269	+38	+38
IRON FENCES AND RAILING.				
1896,	7	79	......	......
1897,	7	100	+21	......
1898,	7	126	+26	+47
AGRICULTURAL IMPLEMENTS.				
1896,	13	1,415	......	......
1897,	13	1,424	+9	......
1898,	13	1,599	+175	+184
STEAM PUMPS.				
1896,	2	153	......	......
1897,	2	140	—13	......
1898,	2	151	+11	—2

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	305	......	......
1897,	4	335	+30	......
1898,	4	418	+83	+113
PIANOS AND ORGANS.				
1896,	4	200	......	......
1897,	4	182	—18	......
1898,	4	183	+1	—17
TINWARE.				
1896,	5	284	......	......
1897,	5	275	—9	......
1898,	5	278	+3	—6
PAPER MANUFACTORIES.				
1896,	10	1,580	......	......
1897,	10	1,555	—25	......
1898,	10	1,517	—38	—63
WALL PAPER.				
1896,	5	482	......	......
1897,	5	501	+19	......
1898,	5	527	+26	+45
CIGARS.				
1896,	50	7,169	......	......
1897,	50	7,911	+742	......
1898,	50	8,385	+474	+1,216

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	138	......	......
1897,	3	137	—1	......
1898,	3	156	+19	+18
CORDAGE, ROPE AND TWINE.				
1896,	6	2,063	......	......
1897,	6	2,129	+66	......
1898,	6	2,106	—23	+43
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	1,826	......	......
1897,	27	1,911	+85	......
1898,	27	2,472	+561	+646
POTTERY.				
1896,	3	221	......	......
1897,	3	225	+4	......
1898,	3	238	+13	+17
PAVING BRICK.				
1896,	9	515	......	......
1897,	9	507	—8	......
1898,	9	590	+83	+75
BUILDING BRICK,				
1896,	41	2,268	......	......
1897,	41	2,021	—247	......
1898,	41	1,992	—29	—276

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	1,868	......	......
1897,	18	1,928	+60	......
1898,	18	2,327	+399	+459
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	934	......	......
1897,	7	910	—24	......
1898,	7	852	—52	—82
SCHOOL SLATES.				
1896,	3	197	......	......
1897,	3	174	—23	......
1898,	3	156	—18	—41
SLATE ROOFING, ETC., SQUARES.				
1896,	17	1,416	......	......
1897,	17	1,498	+82	......
1898,	17	2,009	+511	+593
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	9,994	......	......
1897,	30	10,031	+37	......
1898,	30	10,209	+178	+215
GLAZED AND CHROME KID.				
1896,	7	2,725	......	......
1897,	7	3,255	+530	......
1898,	7	3,745	+490	+1,020

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS; FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	3,815	......	......
1897,	18	4,032	+217	......
1898,	18	4,268	+236	+453
SUSPENDERS.				
1896,	2	110	......	......
1897,	2	120	+10	......
1898,	2	127	+7	+17
HATS AND CAPS.				
1896,	3	490	......	......
1897,	3	489	—1	......
1898,	3	560	+71	+70
FUR AND FELT HATS.				
1896,	5	963	......	......
1897,	5	1,048	+85	......
1898,	5	1,257	+209	+294
WOOL HATS.				
1896,	8	456	......	......
1897,	8	507	+51	......
1898,	8	558	+51	+102
UMBRELLAS AND PARASOLS.				
1896,	6	688	......	......
1897,	6	667	—21	......
1898,	6	579	—88	—109

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	1,104	......	......
1897,	8	1,393	+289	......
1898,	8	1,543	+150	+439
SHIRTS AND SHIRT WAISTS.				
1896,	11	1,954	......	......
1897,	11	1,953	—1	......
1898,	11	2,105	+152	+151
NECK WEAR.				
1896,	5	266	......	......
1897,	5	242	—24	......
1898,	5	225	—17	—41
COTTON AND WOOLEN CLOTHS.				
1896,	26	4,560	......	......
1897,	26	4,863	+303	......
1898,	26	4,834	—29	+274
CARPETS.				
1896,	20	2,486	......	......
1897,	20	2,958	+472	......
1898,	20	2,982	+24	+496
CLOTHING.				
1896,	9	2,933	......	......
1897,	9	3,377	+444	......
1898,	9	3,105	—272	+172

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	3,268	......	......
1897,	20	3,347	+79	......
1898,	20	3,501	+154	+233
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,571	......	......
1897,	13	1,767	+196	......
1898,	13	1,879	+112	+308
WOOLEN AND WORSTED FABRICS.				
1896,	17	2,817	......	......
1897,	17	3,343	+526	......
1898,	17	3,195	—148	+378
WOOLEN AND WORSTED YARNS.				
1896,	13	1,721	......	......
1897,	13	1,817	+96	......
1898,	13	1,750	—67	+29
RUGS, YARNS, ETC.				
1896,	6	3,428	......	......
1897,	6	3,369	—59	......
1898,	6	3,226	—143	—202
CARPET YARNS.				
1896,	12	595	......	......
1897,	12	657	+62	......
1898,	12	609	—48	+14

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	1,169	......	......
1897,	8	1,177	+8	......
1898,	8	1,423	+246	+254
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	5,587	......	......
1897,	9	5,651	+64	......
1898,	9	7,967	+2,316	+2,380
ENGINES, BOILERS, ETC.				
1896,	10	1,922	......	......
1897,	10	1,690	—232	......
1898,	10	1,904	+214	—18
RAILWAY SWITCHES, ETC.				
1896,	2	838	......	......
1897,	2	728	—110	......
1898,	2	886	+158	+48
RAILWAY SUPPLIES.				
1896,	1	311	......	......
1897,	1	500	+189	......
1898,	1	1,000	+500	+689
IRON VESSELS AND ENGINES.				
1896,	4	4,267	......	......
1897,	4	3,706	—561	......
1898,	4	5,384	+1,678	+1,117

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	1,161	......	......
1897,	21	1,128	—33	......
1898,	21	1,386	+258	+225
MACHINERY.				
1896,	21	3,721	......	......
1897,	21	3,853	+132	......
1898,	21	4,434	+581	+713
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	2,127	......	......
1897,	25	2,101	—26	......
1898,	25	2,447	+346	+320
FILES, ETC.				
1896,	2	331	......	......
1897,	2	346	+15	......
1898,	2	369	+23	+38
SAWS.				
1896,	3	56	......	......
1897,	3	50	—6	......
1898,	3	47	—3	—9
PLUMBER SUPPLIES.				
1896,	3	960	......	......
1897,	3	921	—39	......
1898,	3	965	+44	+5

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	2,528	......	......
1897,	4	2,173	—355	......
1898,	4	3,499	+1,326	+971
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	545	......	......
1897,	8	511	—34	......
1898,	8	528	+17	—17
SAFES AND VAULT DOORS.				
1896,	2	128	......	......
1897,	2	125	—3	......
1898,	2	121	—4	—7
IRON BEDS.				
1896,	2	33	......	......
1897,	2	30	—3	......
1898,	2	27	—3	—6
ORNAMENTAL METAL WORK.				
1896,	2	282	......	......
1897,	2	273	—9	......
1898,	2	405	+132	+123
METAL AND METALLIC GOODS.				
1896,	3	194	......	......
1897,	3	207	+13	......
1898,	3	225	+18	+31

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	132	......	......
1897,	1	113	—19	......
1898,	1	127	+14	—5
STRUCTURAL IRON WORK.				
1896,	1	620	......	......
1897,	1	549	—71	......
1898,	1	714	+165	+94
IRON CHAINS.				
1896,	5	231	......	......
1897,	5	231	......	......
1898,	5	269	+38	+38
IRON FENCES AND RAILING.				
1896,	7	79	......	......
1897,	7	100	+21	......
1898,	7	126	+26	+47
AGRICULTURAL IMPLEMENTS.				
1896,	13	1,415	......	......
1897,	13	1,424	+9	......
1898,	13	1,599	+175	+184
STEAM PUMPS.				
1896,	2	153	......	......
1897,	2	140	—13	......
1898,	2	151	+11	—2

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	305	......	......
1897,	4	335	+30	......
1898,	4	418	+83	+113
PIANOS AND ORGANS.				
1896,	4	200	......	......
1897,	4	182	—18	......
1898,	4	183	+1	—17
TINWARE.				
1896,	5	284	......	......
1897,	5	275	—9	......
1898,	5	278	+3	—6
PAPER MANUFACTORIES.				
1896,	10	1,580	......	......
1897,	10	1,555	—25	......
1898,	10	1,517	—38	—63
WALL PAPER.				
1896,	5	482	......	......
1897,	5	501	+19	......
1898,	5	527	+26	+45
CIGARS.				
1896,	50	7,169	......	......
1897,	50	7,911	+742	......
1898,	50	8,385	+474	+1,216

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	138	......	......
1897,	3	137	—1	......
1898,	3	156	+19	+18
CORDAGE, ROPE AND TWINE.				
1896,	6	2,063	......	......
1897,	6	2,129	+66	......
1898,	6	2,106	—23	+43
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	1,826	......	......
1897,	27	1,911	+85	......
1898,	27	2,472	+561	+646
POTTERY.				
1896,	3	221	......	......
1897,	3	225	+4	......
1898,	3	238	+13	+17
PAVING BRICK.				
1896,	9	515	......	......
1897,	9	507	—8	......
1898,	9	590	+83	+75
BUILDING BRICK,				
1896,	41	2,268	......	......
1897,	41	2,021	—247	......
1898,	41	1,992	—29	—276

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	1,868	......	......
1897,	18	1,928	+60	......
1898,	18	2,327	+399	+459
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	934	......	......
1897,	7	910	—24	......
1898,	7	852	—52	—82
SCHOOL SLATES.				
1896,	3	197	......	......
1897,	3	174	—23	......
1898,	3	156	—18	—41
SLATE ROOFING, ETC., SQUARES.				
1896,	17	1,416	......	......
1897,	17	1,498	+82	......
1898,	17	2,009	+511	+593
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	9,994	......	......
1897,	30	10,031	+37	......
1898,	30	10,209	+178	+215
GLAZED AND CHROME KID.				
1896,	7	2,725	......	......
1897,	7	3,255	+530	......
1898,	7	3,745	+490	+1,020

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS; FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	3,815	......	......
1897,	18	4,032	+217	......
1898,	18	4,268	+236	+453
SUSPENDERS.				
1896,	2	110	......	......
1897,	2	120	+10	......
1898,	2	127	+7	+17
HATS AND CAPS.				
1896,	3	490	......	......
1897,	3	489	—1	......
1898,	3	560	+71	+70
FUR AND FELT HATS.				
1896,	5	963	......	......
1897,	5	1,048	+85	......
1898,	5	1,257	+209	+294
WOOL HATS.				
1896,	8	456	......	......
1897,	8	507	+51	......
1898,	8	558	+51	+102
UMBRELLAS AND PARASOLS.				
1896,	6	688	......	......
1897,	6	667	—21	......
1898,	6	579	—88	—109

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	1,104	......	......
1897,	8	1,393	+289	......
1898,	8	1,543	+150	+439
SHIRTS AND SHIRT WAISTS.				
1896,	11	1,954	......	......
1897,	11	1,953	—1	......
1898,	11	2,105	+152	+151
NECK WEAR.				
1896,	5	266	......	......
1897,	5	242	—24	......
1898,	5	225	—17	—41
COTTON AND WOOLEN CLOTHS.				
1896,	26	4,560	......	......
1897,	26	4,863	+303	......
1898,	26	4,834	—29	+274
CARPETS.				
1896,	20	2,486	......	......
1897,	20	2,958	+472	......
1898,	20	2,982	+24	+496
CLOTHING.				
1896,	9	2,933	......	......
1897,	9	3,377	+444	......
1898,	9	3,105	—272	+172

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	3,268	......	......
1897,	20	3,347	+79	......
1898,	20	3,501	+154	+233
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,571	......	......
1897,	13	1,767	+196	......
1898,	13	1,879	+112	+308
WOOLEN AND WORSTED FABRICS.				
1896,	17	2,817	......	......
1897,	17	3,343	+526	......
1898,	17	3,195	—148	+378
WOOLEN AND WORSTED YARNS.				
1896,	13	1,721	......	......
1897,	13	1,817	+96	......
1898,	13	1,750	—67	+29
RUGS, YARNS, ETC.				
1896,	6	3,428	......	......
1897,	6	3,369	—59	......
1898,	6	3,226	—143	—202
CARPET YARNS.				
1896,	12	595	......	......
1897,	12	657	+62	......
1898,	12	609	—48	+14

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	720	......	......
1897,	8	759	+39	......
1898,	8	845	+86	+125
WORSTED YARNS.				
1896,	9	1,406	......	......
1897,	9	1,823	+417	......
1898,	9	1,795	+28	+389
COTTON AND WOOLEN YARNS.				
1896,	5	637	......	......
1897,	5	696	+59	......
1898,	5	716	+20	+79
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	717	......	......
1897,	5	719	+2	......
1898,	5	1,063	+344	+346
LACE GOODS.				
1896,	3	763	......	......
1897,	3	855	+92	......
1898,	3	974	+119	+211
CHENILLE GOODS.				
1896,	4	660	......	......
1897,	4	728	+68	......
1898,	4	669	—59	+9

PERSONS EMPLOYED—Continued.

COMPARISON OF NUMBER OF WAGE EARNERS—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total number of wage earners.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	1,938	......	......
1897,	10	2,059	+121	......
1898,	10	2,127	+68	+189
KNIT GOODS, UNDERWEAR.				
1896,	16	2,505	......	......
1897,	16	2,757	+252	......
1898,	16	2,758	+1	+253
HOSIERY.				
1896,	34	5,107	......	......
1897,	34	5,937	+830	......
1898,	34	6,228	+291	+1,121
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	2,494	......	......
1897,	7	3,643	+1,149	......
1898,	7	3,947	+304	+1,453
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	1,376	......	......
1897,	3	2,121	+745	......
1898,	3	2,283	+162	+907
SILKS—RIBBONS.				
1896,	4	431	......	......
1897,	4	535	+104	......
1898,	4	634	+99	+203

AGGREGATE WAGES PAID.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the aggregate amount of wages paid by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$463,012	....	....
1897,	7	478,303	+$15,291	....
1898,	7	619,179	+140,876	+$156,167
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	625,243	....	....
1897,	5	632,077	+6,834	....
1898,	5	876,325	+244,248	+251,082
TOOL STEEL.				
1896,	2	84,496	....	....
1897,	2	72,164	—12,782	....
1898,	2	150,952	+78,788	+66,006
IRON AND STEEL SPECIALTIES.				
1896,	3	51,102	....	....
1897,	3	51,996	+894	....
1898,	3	37,751	—14,245	—13,351
IRON AND STEEL FORGINGS.				
1896,	7	121,567	....	....
1897,	7	120,823	—744	....
1898,	7	175,796	+54,973	+54,229

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	$17,700	....	....
1897,	2	22,700	+$5,000	....
1898,	2	18,700	—4,000	+$1,000
MALLEABLE IRON.				
1896,	4	709,933	....	....
1897,	4	647,054	—62,879	....
1898,	4	776,815	+129,761	+66,882
BOLTS, NUTS, ETC.				
1896,	8	361,981	....	....
1897,	8	308,126	—53,855	....
1898,	8	348,639	+40,513	—13,342
SPIKES AND RIVETS.				
1896,	2	19,883	....	....
1897,	2	18,219	—1,664	....
1898,	2	19,724	+1,505	—159
WIRE NAILS.				
1896,	3	140,100	....	....
1897,	3	230,387	+90,287	....
1898,	3	167,475	—62,912	+27,375
TACKS AND SMALL NAILS.				
1896,	4	34,122	....	....
1897,	4	31,752	—2,370	....
1898,	4	24,483	—7,269	—9,639

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	$60,328	....	....
1897,	6	60,682	+$354	....
1898,	6	79,965	+19,283	+$19,637
WIRE ROPE.				
1896,	6	70,108	....	....
1897,	6	74,810	+4,702	....
1898,	6	88,858	+14,048	+18,750
WIRE GOODS.				
1896,	4	20,708	....	....
1897,	4	27,354	+6,646	....
1898,	4	27,923	+569	+7,215
WAGON AND CARRIAGE AXLES.				
1896,	4	146,138	....	....
1897,	4	158,329	+12,191	....
1898,	4	189,439	+31,110	+43,301
CARRIAGE AND WAGON SPRINGS.				
1896,	2	24,877	....	....
1897,	2	20,799	—4,078	....
1898,	2	21,078	+279	—3,799
SCALES, ETC.				
1896,	5	69,550	....	....
1897,	5	74,385	+4,835	....
1898,	5	81,860	+7,475	+12,310

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	$1,663,392	....	....
1897,	39	1,683,743	+$20,351	....
1898,	39	1,793,402	+109,659	+$130,010
BATH BOILERS, TANKS, ETC.				
1896,	2	12,091	....	....
1897,	2	12,498	+407	....
1898,	2	13,611	+1,113	+1,520
HARDWARE SPECIALTIES.				
1896,	14	1,004,650	....	....
1897,	14	1,053,746	+49,096	....
1898,	14	1,127,879	+74,133	+123,229
EDGE TOOLS.				
1896,	12	356,401	....	....
1897,	12	304,988	—51,413	....
1898,	12	401,694	+96,706	+45,293
WRENCHES, PICKS, ETC.				
1896,	5	106,369	....	....
1897,	5	123,034	+16,665	....
1898,	5	139,125	+16,091	+32,756
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	3,035,897	....	....
1897,	3	3,019,356	—16,541	....
1898,	3	3,411,544	+392,188	+375,647

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$165,614	....	....
1897,	3	161,177	—$4,437	....
1898,	3	220,529	+59,352	+$54,915
CAR WHEELS AND CAR AXLES.				
1896,	2	81,060	....	....
1897,	2	72,701	—8,359	....
1898,	2	90,929	+18,228	+9,869
FREIGHT AND STREET CARS, ETC.				
1896,	4	126,184	....	....
1897,	4	119,000	—7,184	....
1898,	4	220,165	+101,165	+93,981
WROUGHT IRON PIPE AND TUBES.				
1896,	5	2,170,688	....	....
1897,	5	2,045,620	—125,068	....
1898,	5	2,451,501	+405,881	+280,813
CAST IRON PIPE.				
1896,	3	209,338	....	....
1897,	3	250,934	+41,596	....
1898,	3	263,550	+12,616	+54.212
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	610,840	....	....
1897,	22	574,577	—36,263	....
1898,	22	685,625	+111,048	+74,785

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$590,081	....	....
1897,	8	564,817	—$25,264	....
1898,	8	647,664	+82,847	+$57,583
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	3,137,295	....	....
1897,	9	3,032,837	—104,458	....
1898,	9	4,559,167	+1,526,330	+1,421,872
ENGINES, BOILERS, ETC.				
1896,	10	1,003,538	....	....
1897,	10	840,896	—162,642	....
1898,	10	996,882	+155,986	—6,656
RAILWAY SWITCHES, ETC.				
1896,	2	436,911	....	....
1897,	2	355,302	—81,609	....
1898,	2	459,897	+104,595	+22,986
RAILWAY SUPPLIES.				
1896,	1	161,847	....	....
1897,	1	220,000	+58,153	....
1898,	1	500,000	+280,000	+338,153
IRON VESSELS AND ENGINES.				
1896,	4	2,444,173	....	....
1897,	4	2,024,270	—419,903	....
1898,	4	2,880,847	+856,577	+436,674

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$542,277	....	....
1897,	21	535,025	—$7,252	....
1898,	21	639,883	+104,858	+$97,606
MACHINERY.				
1896,	21	1,955,967	....	....
1897,	21	1,970,570	+14,603	....
1898,	21	2,402,335	+431,765	+446,368
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	957,628	....	....
1897,	25	995,718	+38,090	....
1898,	25	1,184,333	+188,615	+226,705
FILES, ETC.				
1896,	2	108,895	....	....
1897,	2	110,805	+1,910	....
1898,	2	117,553	+6,748	+8,658
SAWS.				
1896,	3	25,745	....	....
1897,	3	21,557	—4,188	....
1898,	3	22,939	+1,382	—2,806
PLUMBER SUPPLIES.				
1896,	3	418,864	....	....
1897,	3	377,194	—41,670	....
1898,	3	432,969	+55,775	+14,105

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$1,276,087	....	....
1897,	4	1,184,647	—$91,440	....
1898,	4	1,929,920	+745,273	+$653.833
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	217,581	....	....
1897,	8	202,067	—15,514	....
1898,	8	236,593	+34,526	+19,012
SAFES AND VAULT DOORS.				
1896,	2	54,556	....	....
1897,	2	59,906	+5,350	....
1898,	2	61,012	+1,106	+6,456
IRON BEDS.				
1896,	2	7,052	....	....
1897,	2	6,191	—861	....
1898,	2	6,243	+52	—809
ORNAMENTAL METAL WORK.				
1896,	2	177,921	....	....
1897,	2	158,948	—18,973	....
1898,	2	205,995	+47,047	+28,074
METAL AND METALLIC GOODS.				
1896,	3	58,892	....	....
1897,	3	65,704	+6,812	....
1898,	3	74,084	+8,380	+15,192

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	$66,710	....	....
1897,	1	63,998	—$2,712	....
1898,	1	68,466	+4,468	+$1,756
STRUCTURAL IRON WORK.				
1896,	1	315,438	....	....
1897,	1	280,454	—34,984	....
1898,	1	373,073	+92,619	+57,635
IRON CHAINS.				
1896,	5	91,526	....	....
1897,	5	96,671	+5,145	....
1898,	5	120,291	+23,620	+28,765
IRON FENCES AND RAILING.				
1896,	7	37,512	....	....
1897,	7	48,923	+11,411	....
1898,	7	57,197	+8,274	+19,685
AGRICULTURAL IMPLEMENTS.				
1896,	13	622,390	....	....
1897,	13	625,572	+3,182	....
1898,	13	752,266	+126,694	+129,876
STEAM PUMPS.				
1896,	2	121,368	....	....
1897,	2	103,105	—18,263	....
1898,	2	112,032	+8,927	—9,336

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$159,578	....	....
1897,	4	192,099	+$32,521	....
1898,	4	189,355	—2,744	+$29,777
PIANOS AND ORGANS.				
1896,	4	106,706	....	....
1897,	4	90,853	—15,853	....
1898,	4	90,137	—716	—16,569
TINWARE.				
1896,	5	107,539	....	....
1897,	5	106,907	—632	....
1898,	5	103,119	—3,788	—4,420
PAPER MANUFACTORIES.				
1896,	10	602,332	....	....
1897,	10	615,092	+12,760	....
1898,	10	600,473	—14,619	—1,859
WALL PAPER.				
1896,	5	156,068	....	....
1897,	5	169,043	+12,975	....
1898,	5	188,198	+19,155	+32,130
CIGARS.				
1896,	50	1,992,086	....	....
1897,	50	2,218,695	+226,609	....
1898,	50	2,424,540	+205,845	+432,454

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$64,957	....	....
1897,	3	66,378	+$1,421	....
1898,	3	75,293	+8,915	+$10,336
CORDAGE, ROPE AND TWINE.				
1896,	6	621,413	....	....
1897,	6	687,023	+65,610	....
1898,	6	679,993	—7,030	+58,580
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	494,654	....	....
1897,	27	511,220	+16,566	....
1898,	27	567,743	+56,523	+73,089
POTTERY.				
1896,	3	100,562	....	....
1897,	3	96,771	—3,791	....
1898,	3	103,249	+6,478	+2,687
PAVING BRICK.				
1896,	9	164,710	....	....
1897,	9	168,302	+3,592	....
1898,	9	180,022	+11,720	+15,312
BUILDING BRICK.				
1896,	41	765,253	....	....
1897,	41	696,380	—68,873	....
1898,	41	667,870	—28,510	—97,383

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$727,162	....	....
1897,	18	719,308	—$7,854	....
1898,	18	843,336	+124,028	+$116,174
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	284,706	....	....
1897,	7	296,492	+11,786	....
1898,	7	276,506	—19,986	—8,200
SCHOOL SLATES.				
1896,	3	30,795	....	....
1897,	3	29,694	—1,101	....
1898,	3	27,337	—2,357	—3,458
SLATE ROOFING, ETC., SQUARES.				
1896,	17	446,365	....	....
1897,	17	487,904	+41,539	....
1898,	17	522,063	+34,159	+75,698
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	3,840,098	....	....
1897,	30	4,141,286	+301,188	....
1898,	30	4,355,737	+214,451	+515,639
GLAZED AND CHROME KID.				
1896,	7	962,342	....	....
1897,	7	1,285,138	+322,796	....
1898,	7	1,472,762	+187,624	+510,420

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$1,292,042	....	....
1897,	18	1,410,546	+$118,504	....
1898,	18	1,517,798	+107,252	+$225,756
SUSPENDERS.				
1896,	2	30,936	....	....
1897,	2	33,936	+3,000	....
1898,	2	41,000	+7,064	+10,064
HATS AND CAPS.				
1896,	3	121,160	....	....
1897,	3	179,336	+58,176	....
1898,	3	176,383	—2,953	+55,223
FUR AND FELT HATS.				
1896,	5	385,170	....	....
1897,	5	514,651	+129,481	....
1898,	5	595,085	+80,434	+209,915
WOOL HATS.				
1896,	8	143,829	....	....
1897,	8	158,571	+14,742	....
1898,	8	163,081	+4,510	+19,252
UMBRELLAS AND PARASOLS.				
1896,	6	167,380	....	....
1897,	6	199,856	+32,476	....
1898,	6	157,172	—42,684	—10,208

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$299,043	....	....
1897,	8	380,240	+$81,197	....
1898,	8	413,277	+33,037	+$114,234
SHIRTS AND SHIRT WAISTS.				
1896,	11	555,092	....	....
1897,	11	519,631	—35,461	....
1898,	11	559,789	+40,158	+4,697
NECK WEAR.				
1896,	5	98,556	....	....
1897,	5	84,381	—14,175	....
1898,	5	81,815	—2,566	—16,741
COTTON AND WOOLEN CLOTHS.				
1896,	26	1,446,144	....	....
1897,	26	1,679,106	+232,962	....
1898,	26	1,692,156	+13,050	+246,012
CARPETS.				
1896,	20	868,200	....	....
1897,	20	1,093,072	+224,872	....
1898,	20	1,075,140	—17,932	+206,940
CLOTHING.				
1896,	9	615,563	....	....
1897,	9	632,711	+17,148	....
1898,	9	622,926	—9,785	+7,363

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$919,761	....	....
1897,	20	1,036,494	+$116,733	....
1898,	20	1,116,787	+80,293	+$197,026
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	488,143	....	....
1897,	13	596,028	+107,885	....
1898,	13	632,542	+36,514	+144,399
WOOLEN AND WORSTED FABRICS.				
1896,	17	796,935	....	....
1897,	17	1,054,239	+257,304	....
1898,	17	1,074,441	+20,202	+277,506
WOOLEN AND WORSTED YARNS.				
1896,	13	480,490	....	....
1897,	13	564,008	+83,518	....
1898,	13	527,411	—36,597	+46,921
RUGS, YARNS, ETC.				
1896,	6	1,093,507	....	....
1897,	6	1,072,563	—20,944	....
1898,	6	1,086,601	+14,038	—6,906
CARPET YARNS.				
1896,	12	201,553	....	....
1897,	12	245,091	+43,538	....
1898,	12	201,918	—43,173	+365

AGGREGATE WAGES PAID—Continued.

COMPARISON OF AGGREGATE AMOUNT OF WAGES PAID—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$194,570	....	....
1897,	8	213,940	+19,370	....
1898,	8	254,495	+40,555	+$59,925
WORSTED YARNS.				
1896,	9	375,736	....	....
1897,	9	489,454	+113,718	....
1898,	9	467,130	—22,324	+91,394
COTTON AND WOOLEN YARNS.				
1896,	5	189,018	....	....
1897,	5	218,632	+29,614	....
1898,	5	227,559	+8,927	+38,541
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	257,057	....	....
1897,	5	264,403	+7,346	....
1898,	5	350,302	+85,899	+93,245
LACE GOODS.				
1896,	3	193,765	....	....
1897,	3	223,436	+29,671	....
1898,	3	269,910	+46,474	+76,145
CHENILLE GOODS.				
1896,	4	148,438	....	....
1897,	4	181,224	+32,786	....
1898,	4	185,041	+3,817	+36,603

AGGREGATE WAGES PAID—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Aggregate wages paid.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$674,424	....	....
1897,	10	765,506	+$91,082	....
1898,	10	847,374	+81,868	+$172,950
KNIT GOODS, UNDERWEAR.				
1896,	16	658,608	....	....
1897,	16	726,134	+67,526	....
1898,	16	740,431	+14,297	+81,823
HOSIERY.				
1896,	34	1,216,212	....	....
1897,	34	1,464,552	+248,340	....
1898,	34	1,570,691	+106,139	+354,479
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	628,994	....	....
1897,	7	840,337	+211,343	....
1898,	7	949,659	+109,322	+320,665
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	340,255	....	....
1897,	3	492,634	+152,379	....
1898,	3	533,246	+40,612	+192,991
SILKS—RIBBONS.				
1896,	4	125,802	....	....
1897,	4	187,491	+61,689	....
1898,	4	213,252	+25,761	+87,450

VALUE OF PRODUCT.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the value of manufactured product by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$1,496,055	....	....
1897,	7	1,391,020	—$105,035	....
1898,	7	2,098,933	+707,913	+$602,878
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	7,166,195	....	....
1897,	5	10,517,987	+3,351,792	....
1898,	5	10,265,659	—252,328	+3,099,464
TOOL STEEL.				
1896,	2	386,661	....	....
1897,	2	243,469	—143,192	....
1898,	2	419,725	+176,256	+33,064
IRON AND STEEL SPECIALTIES.				
1896,	3	239,897	....	....
1897,	3	225,744	—14,153	....
1898,	3	201,340	—24,404	—38,557
IRON AND STEEL FORGINGS.				
1896,	7	366,163	....	....
1897,	7	315,364	—50,799	....
1898,	7	463,025	+147,661	+96,862

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	$77,966	....	....
1897,	2	119,167	+$41,201	....
1898,	2	78,107	—41,060	+$141
MALLEABLE IRON.				
1896,	4	1,933,107	....	....
1897,	4	1,627,267	—305,840	....
1898,	4	2,288,315	+661,048	+355,208
BOLTS, NUTS, ETC.				
1896,	8	1,269,306	....	....
1897,	8	1,221,990	—47,316	....
1898,	8	1,424,103	+202,113	+154,797
SPIKES AND RIVETS.				
1896,	2	173,749	....	....
1897,	2	159,246	—14,503	....
1898,	2	190,000	+30,754	+16,251
WIRE NAILS.				
1896,	3	758,704	....	....
1897,	3	1,346,116	+587,412	....
1898,	3	908,291	—437,825	+149,587
TACKS AND SMALL NAILS.				
1896,	4	115,749	....	....
1897,	4	107,112	—8,637	....
1898,	4	94,162	—12,950	—21,587

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	$284,418	....	....
1897,	6	300,614	+$16,196	....
1898,	6	367,860	+67,246	+$83,442
WIRE ROPE.				
1896,	2	615,004	....	....
1897,	2	596,192	—18,812	....
1898,	2	655,466	+59,274	+40,462
WIRE GOODS.				
1896,	4	67,040	....	....
1897,	4	99,311	+32,271	....
1898,	4	147,568	+48,257	+80,528
WAGON AND CARRIAGE AXLES.				
1896,	4	471,440	....	....
1897,	4	491,920	+20,480	....
1898,	4	582,349	+90,429	+110,909
CARRIAGE AND WAGON SPRINGS.				
1896,	2	73,042	....	....
1897,	2	62,864	—10,178	....
1898,	2	63,456	+592	—9,586
SCALES, ETC.				
1896,	5	242,692	....	....
1897,	5	263,089	+20,397	....
1898,	5	276,978	+13,889	+34,286

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	$4,205,094	....	....
1897,	39	4,267,423	+$62,329	....
1898,	39	4,317,431	+50,008	+$112,337
BATH BOILERS, TANKS, ETC.				
1896,	2	61,186	....	....
1897,	2	63,699	+2,513	....
1898,	2	62,102	—1,597	+916
HARDWARE SPECIALTIES.				
1896,	14	2,382,624	....	....
1897,	14	2,686,482	+303,858	....
1898,	14	2,823,993	+137,511	+441,369
EDGE TOOLS.				
1896,	12	1,083,068	....	....
1897,	12	781,832	—301,236	....
1898,	12	1,069,190	+287,358	—13,878
WRENCHES, PICKS, ETC.				
1896,	5	363,054	....	....
1897,	5	462,043	+98,989	....
1898,	5	494,058	+32,015	+131,004
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	6,983,962	....	....
1897,	3	6,534,498	—449,464	....
1898,	3	8,000,396	+1,465,898	+1,016,434

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$1,152,141	....	....
1898,	3	1,088,057	—$64,084	....
1898,	3	1,618,264	+530,207	+$466,123
CAR WHEELS AND CAR AXLES.				
1896,	2	374,167	....	....
1897,	2	327,822	—46,345	....
1898,	2	322,632	—5,190	—51,535
FREIGHT AND STREET CARS, ETC.				
1896,	4	668,495	....	....
1897,	4	414,156	—254,339	....
1898,	4	933,708	+519,552	+265,213
WROUGHT IRON PIPE AND TUBES.				
1896,	5	11,907,420	....	....
1897,	5	11,341,565	—565,855	....
1898,	5	14,552,862	+3,211,297	+2,645,442
CAST IRON PIPE.				
1896,	3	862,648	....	....
1897,	3	1,184,240	+321,592	....
1898,	3	1,260,038	+75,798	+397,390
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	2,530,968	....	....
1897,	22	2,217,534	—313,434	....
1898,	22	2,782,387	+564,853	+251,419

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$3,429,136	....	....
1897,	8	3,115,371	—$313,765	....
1898,	8	3,717,213	+601,842	+$288,077
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	8,792,061	....	....
1897,	9	8,531,117	—260,944	....
1898,	9	12,862,598	+4,331,481	+4,070,537
ENGINES, BOILERS, ETC.				
1896,	10	3,230,705	....	....
1897,	10	2,658,616	—572,089	....
1898,	10	3,088,737	+430,121	—141,968
RAILWAY SWITCHES, ETC.				
1896,	2	1,594,007	....	....
1897,	2	1,311,129	—282,878	....
1898,	2	1,462,993	+151,864	—131,014
RAILWAY SUPPLIES.				
1896,	1	814,056	....	....
1897,	1	1,218,000	+403,944	....
1898,	1	3,890,000	+2,672,000	+3,075,944
IRON VESSELS AND ENGINES.				
1896,	4	5,367,475	....	....
1897,	4	4,949,232	—418,243	....
1898,	4	6,635,431	+1,686,199	+1,267,956

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$1,951,211	....	....
1897,	21	1,904,346	—$46,865	....
1898,	21	2,455,255	+550,909	+$504,044
MACHINERY.				
1896,	21	5,397,999	....	....
1897,	21	5,451,809	+53,810	....
1898,	21	6,500,975	+1,049,166	+1,102,976
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	2,643,208	....	....
1897,	25	2,965,528	+322,320	....
1898,	25	3,571,600	+606,072	+928,392
FILES, ETC.				
1896,	2	321,222	....	....
1897,	2	329,533	+8,311	....
1898,	2	400,465	+70,932	+79,243
SAWS.				
1896,	3	88,186	....	....
1897,	3	71,437	—16,749	....
1898,	3	76,338	+4,901	—11,848
PLUMBER SUPPLIES.				
1896,	3	1,078,000	....	....
1897,	3	962,000	—116,000	....
1898,	3	1,097,058	+135,058	+19,058

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$3,653,461	....	....
1897,	4	3,463,804	—$189,657	....
1898,	4	6,821,374	+3,357,570	+$3,167,913
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	813,573	....	....
1897,	8	803,048	—10,525	....
1898,	8	997,314	+194,266	+183,741
SAFES AND VAULT DOORS.				
1896,	2	151,546	....	....
1897,	2	157,476	+5,930	....
1898,	2	153,085	—4,391	+1,539
IRON BEDS.				
1896,	2	24,716	....	....
1897,	2	19,905	—4,811	....
1898,	2	22,121	+2,216	—2,595
ORNAMENTAL METAL WORK.				
1896,	2	443,938	....	....
1897,	2	420,546	—23,392	....
1898,	2	471,296	+50,750	+27,358
METAL AND METALLIC GOODS.				
1896,	3	161,989	....	....
1897,	3	184,101	+22,112	....
1898,	3	207,496	+23,395	+45,507

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	$160,988	....	....
1897,	1	139,837	—$21,151	....
1898,	1	139,532	—305	—$21,456
STRUCTURAL IRON WORK.				
1896,	1	1,034,168	....	....
1897,	1	1,109,451	+75,283	....
1898,	1	1,918,107	+808,656	+883,939
IRON CHAINS.				
1896,	5	331,059	....	....
1897,	5	336,049	+4,990	....
1898,	5	409,304	+73,255	+78,245
IRON FENCES AND RAILING.				
1896,	7	119,501	....	....
1897,	7	145,641	+26,140	....
1898,	7	187,059	+41,418	+67,558
AGRICULTURAL IMPLEMENTS.				
1896,	13	2,351,507	....	....
1897,	13	2,527,451	+175,944	....
1898,	13	2,958,496	+431,045	+606,989
STEAM PUMPS.				
1896,	2	334,056	....	....
1897,	2	249,488	—84,568	....
1898,	2	313,511	+64,023	—20,545

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$832,698	....	....
1897,	4	788,628	—$44,070	....
1898,	4	833,479	+44,851	+$781
PIANOS AND ORGANS.				
1896,	4	322,647	....	....
1897,	4	287,424	—35,223	....
1898,	4	251,421	—36,003	—71,226
TINWARE.				
1896,	5	477,000	....	....
1897,	5	467,000	—10,000	....
1898,	5	469,200	+2,200	—7,800
PAPER MANUFACTORIES.				
1896,	10	3,535,998	....	....
1897,	10	3,499,186	—36,812	....
1898,	10	3,384,470	—114,716	—151,528
WALL PAPER.				
1896,	5	1,044,811	....	....
1897,	5	1,238,000	+193,189	....
1898,	5	1,453,336	+215,336	+408,525
CIGARS.				
1896,	50	7,845,136	....	....
1897,	50	8,804,314	+959,178	....
1898,	50	9,591,011	+786,697	+1,745,875

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$167,856	....	....
1897,	3	162,373	—$5,483	....
1898,	3	180,567	+18,194	+$12,711
CORDAGE, ROPE AND TWINE.				
1896,	6	4,793,024	....	....
1897,	6	4,729,813	—63,211	....
1898,	6	4,963,813	+234,000	+170,789
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	2,009,846	....	....
1897,	27	2,049,073	+39,227	....
1898,	27	2,282,183	+233,110	+272,337
POTTERY.				
1896,	3	254,732	....	....
1897,	3	243,197	—11,535	....
1898,	3	279,866	+36,669	+25,134
PAVING BRICK.				
1896,	9	384,378	....	....
1897,	9	405,820	+21,442	....
1898,	9	425,148	+19,328	+40,770
BUILDING BRICK.				
1896,	41	1,796,146	....	....
1897,	41	1,614,813	—181,333	....
1898,	41	1,526,413	—88,400	—269,733

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, 1896-1897.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$1,639,926	....	....
1897,	18	1,570,074	—$69,852	....
1898,	18	1,915,392	+345,318	+$275,466
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	430,376	....	....
1897,	7	553,077	+122,701	....
1898,	7	576,702	+23,625	+146,326
SCHOOL SLATES.				
1896,	3	125,804	....	....
1897,	3	146,444	+20,640	....
1898,	3	125,769	—20,675	—35
SLATE ROOFING, ETC., SQUARES.				
1896,	17	686,321	....	....
1897,	17	807,486	+121,165	....
1898,	17	834,868	+27,382	+148,547
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	8,439,801	....	....
1897,	30	9,287,567	+847,766	....
1898,	30	9,865,247	+577,680	+1,425,446
GLAZED AND CHROME KID.				
1896,	7	8,049,657	....	....
1897,	7	10,649,292	+2,599,635	....
1898,	7	12,691,322	+2,042,030	+4,641,665

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$5,638,377	....	....
1897,	18	6,030,847	+$392,470	....
1898,	18	6,558,748	+527,901	+$920,371
SUSPENDERS.				
1896,	2	319,100	....	....
1897,	2	349,100	+30,000	....
1898,	2	391,500	+42,400	+72,400
HATS AND CAPS.				
1896,	3	525,607	....	....
1897,	3	782,060	+256,453	....
1898,	3	737,149	—44,911	+211,542
FUR AND FELT HATS.				
1896,	5	1,447,818	....	....
1897,	5	1,558,607	+110,789	....
1898,	5	1,731,063	+172,456	+283,245
WOOL HATS.				
1896,	8	589,293	....	....
1897,	8	714,316	+125,023	....
1898,	8	697,514	—16,802	+108,221
UMBRELLAS AND PARASOLS.				
1896,	6	1,362,314	....	....
1897,	6	1,436,838	+74,524	....
1898,	6	1,337,351	—99,487	—24,963

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$1,218,500	....	....
1897,	8	1,471,696	+$253,196	....
1898,	8	1,708,275	+236,579	+$489,775
SHIRTS AND SHIRT WAISTS.				
1896,	11	2,204,868	....	....
1897,	11	2,041,342	—163,526	....
1898,	11	2,258,564	+217,222	+53,696
NECK WEAR.				
1896,	5	501,083	....	....
1897,	5	455,956	—45,127	....
1898,	5	435,114	—20,842	—65,969
COTTON AND WOOLEN CLOTHS.				
1896,	26	5,571,616	....	....
1897,	26	6,565,773	+994,157	....
1898,	26	6,683,097	+117,324	+1,111,481
CARPETS.				
1896,	20	3,977,283	....	....
1897,	20	5,026,839	+1,049,556	....
1898,	20	5,122,683	+95,844	+1,145,400
CLOTHING.				
1896,	9	2,894,340	....	....
1897,	9	3,058,304	+163,964	....
1898,	9	2,985,866	—72,438	+91,526

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$3,139,012	....	....
1897,	20	3,436,182	+$297,170	....
1898,	20	3,608,179	+171,997	+$469,167
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	2,262,001	....	....
1897,	13	2,952,899	+690,898	....
1898,	13	3,049,807	+96,908	+787,806
WOOLEN AND WORSTED FABRICS.				
1896,	17	3,921,846	....	....
1897,	17	5,323,713	+1,401,867	....
1898,	17	5,390,285	+66,572	+1,468,439
WOOLEN AND WORSTED YARNS.				
1896,	13	2,969,351	....	....
1897,	13	3,781,819	+812,468	....
1898,	13	4,545,227	+763,408	+1,575,876
RUGS, YARNS, ETC.				
1896,	6	4,401,046	....	....
1897,	6	4,406,440	+5,394	....
1898,	6	4,309,452	—96,988	—91,594
CARPET YARNS.				
1896,	12	1,295,455	....	....
1897,	12	1,828,851	+533,396	....
1898,	12	1,442,656	—386,195	+147,201

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$1,166,180	....	....
1897,	8	1,184,831	+$18,651	....
1898,	8	1,310,385	+125,554	+$144,205
WORSTED YARNS.				
1896,	9	2,263,571	....	....
1897,	9	3,446,514	+1,182,943	....
1898,	9	2,990,862	—455,652	+727,291
COTTON AND WOOLEN YARNS.				
1896,	5	832,459	....	....
1897,	5	990,280	+157,821	....
1898,	5	990,226	—54	+157,767
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	1,282,412	....	....
1897,	5	1,221,499	—60,913	....
1898,	5	2,107,398	+885,899	+824,986
LACE GOODS.				
1896,	3	909,289	....	....
1897,	3	1,086,945	+177,656	....
1898,	3	1,219,698	+132,753	+310,409
CHENILLE GOODS.				
1896,	4	537,678	....	....
1897,	4	613,450	+75,772	....
1898,	4	639,280	+25,830	+101,602

VALUE OF PRODUCT—Continued.

COMPARISON OF VALUE OF MANUFACTURED PRODUCT—SAME ESLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$2,674,368	....	....
1897,	10	2,864,002	+$189,634	....
1898,	10	3,100,667	+236,665	+$426,299
KNIT GOODS, UNDERWEAR.				
1896,	16	3,205,419	....	....
1897,	16	3,628,944	+423,525	....
1898,	16	3,751,921	+122,977	+546,502
HOSIERY.				
1896,	34	4,005,007	....	....
1897,	34	4,767,554	+762,547	....
1898,	34	5,118,488	+350,934	+1,113,481
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	3,643,308	....	....
1897,	7	4,970,593	+1,327,285	....
1898,	7	5,681,769	+711,176	+2,038,461
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	1,510,181	....	....
1897,	3	2,414,705	+904,524	....
1898,	3	2,942,433	+527,728	+1,432,252
SILKS—RIBBONS.				
1896,	4	705,120	....	....
1897,	4	895,892	+190,772	....
1898,	4	1,067,823	+171,931	+362,703

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the value of average annual product per employe by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$1,472 49	....	....
1897,	7	1,302 45	—$170 04	....
1898,	7	1,539 94	+237 49	+$67 45
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	5,104 13	....	....
1897,	5	3,100 71	—2,003 42	....
1898,	5	6,889 70	+3,788 99	+1,785 57
TOOL STEEL.				
1896,	2	2,577 74	....	....
1897,	2	1,634 02	—943 72	....
1898,	2	2,057 48	+423 46	—520 26
IRON AND STEEL SPECIALTIES.				
1896,	3	1,725 88	....	....
1897,	3	1,485 16	—240 72	....
1898,	3	1,536 95	+51 79	—188 93
IRON AND STEEL FORGINGS.				
1896,	7	1,047 89	....	....
1897,	7	1,292 28	+244 39	....
1898,	7	1,456 05	+163 77	+408 16

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	$2,107 19	....	....
1897,	2	2,648 16	+$540 97	....
1898,	2	2,231 63	—416 53	+$124 44
MALLEABLE IRON.				
1896,	4	1,227 37	....	....
1897,	4	1,159 02	—68 35	....
1898,	4	1,395 31	+236 29	+167 94
BOLTS, NUTS, ETC.				
1896,	8	1,347 46	....	....
1897,	8	1,265 00	—82 46	....
1898,	8	1,410 00	+145 00	+62 54
SPIKES AND RIVETS.				
1896,	2	3,777 15	....	....
1897,	2	3,122 47	—654 68	....
1898,	2	3,454 54	+332 07	—322 61
WIRE NAILS.				
1896,	3	1,652 95	....	....
1897,	3	2,247 27	+594 32	....
1898,	3	1,476 90	—770 37	—176 05
TACKS AND SMALL NAILS.				
1896,	4	980 92	....	....
1897,	4	939 58	—41 34	....
1898,	4	1,384 73	+445 15	+403 81

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WIRE.				
1896,	6	$2,154 68	....	....
1897,	6	2,004 09	—$150 59	....
1898,	6	2,202 75	+198 66	+$48 07
WIRE ROPE.				
1896,	2	3,892 43	....	....
1897,	2	3,591 52	—300 91	....
1898,	2	3,449 82	—141 70	—442 61
WIRE GOODS.				
1896,	4	838 00	....	....
1897,	4	1,128 53	+290 53	....
1898,	4	1,379 14	+250 61	+541 14
WAGON AND CARRIAGE AXLES.				
1896,	4	1,520 77	....	....
1897,	4	1,571 63	+50 86	....
1898,	4	1,608 70	+37 07	+87 93
CARRIAGE AND WAGON SPRINGS.				
1896,	2	1,698 65	....	....
1897,	2	1,571 60	—127 05	....
1898,	2	1,547 71	—23 89	—150 94
SCALES, ETC.				
1896,	5	2,022 43	....	....
1897,	5	2,008 31	—14 12	....
1898,	5	1,923 46	—84 85	—98 97

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	$1,190 57	....	....
1897,	39	1,623 83	+$433 26	....
1898,	39	1,163 10	—460 73	—$27 47
BATH BOILERS, TANKS, ETC.				
1896,	2	2,353 31	....	....
1897,	2	2,274 97	—78 34	....
1898,	2	1,940 69	—334 28	—412 62
HARDWARE SPECIALTIES.				
1896,	14	949 63	....	....
1897,	14	1,016 45	+66 82	....
1898,	14	983 62	—32 83	+33 99
EDGE TOOLS.				
1896,	12	1,324 04	....	....
1897,	12	945 38	—378 66	....
1898,	12	1,217 76	+272 38	—106 28
WRENCHES, PICKS, ETC.				
1896,	5	1,463 93	....	....
1897,	5	1,576 94	+113 01	....
1898,	5	1,816 39	+239 45	+352 46
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	1,116 72	....	....
1897,	3	1,138 02	+21 30	....
1898,	3	1,341 22	+203 20	+224 50

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$3,945 69	....	....
1897,	3	3,626 85	—$318 84	....
1898,	3	4,385 54	+758 69	+$439 85
CAR WHEELS AND CAR AXLES.				
1896,	2	1,773 30	....	....
1897,	2	1,614 89	—158 41	....
1898,	2	1,558 61	—56 28	—214 69
FREIGHT AND STREET CARS, ETC.				
1896,	4	1,136 90	....	....
1897,	4	853 93	—282 97	....
1898,	4	1,397 76	+543 83	+260 86
WROUGHT IRON PIPE AND TUBES.				
1896,	5	2,236 56	....	....
1897,	5	2,219 49	—17 07	....
1898,	5	2,556 27	+336 78	+319 71
CAST IRON PIPE.				
1896,	3	1,701 48	....	....
1897,	3	1,925 59	+224 11	....
1898,	3	1,828 79	—96 80	+127 31
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	1,789 93	....	....
1897,	22	1,640 19	—149 74	....
1898,	22	1,816 18	+175 99	+26 25

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, 1896-1897.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$2,933 39	....	....
1897,	8	2,646 87	—$286 52	....
1898,	8	2,612 24	—34 63	—$321 15
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	1,573 66	....	....
1897,	9	1,509 67	—63 99	....
1898,	9	1,614 48	+104 81	+40 82
ENGINES, BOILERS, ETC.				
1896,	10	1,680 91	....	....
1897,	10	1,573 15	—107 76	....
1898,	10	1,622 24	+49 09	—58 67
RAILWAY SWITCHES, ETC.				
1896,	2	1,902 14	....	....
1897,	2	1,801 00	—101 14	....
1898,	2	1,651 23	—149 77	—250 91
RAILWAY SUPPLIES.				
1896,	1	2,617 54	....	....
1897,	1	2,436 00	—181 54	....
1898,	1	3,890 00	+1,454 00	+1,272 46
IRON VESSELS AND ENGINES.				
1896,	4	1,257 90	....	....
1897,	4	1,335 46	+77 56	....
1898,	4	1,232 44	—103 02	—25 46

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$1,680 63	....	....
1897,	21	1,688 25	+$7 62	....
1898,	21	1,771 47	+83 22	+$90 84
MACHINERY.				
1896,	21	1,450 69	....	....
1897,	21	1,414 95	—35 74	....
1898,	21	1,466 16	+51 21	+15 47
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	1,242 69	....	....
1897,	25	1,411 48	+168 79	....
1898,	25	1,459 58	+48 10	+216 89
FILES, ETC.				
1896,	2	970 46	....	....
1897,	2	952 40	—18 06	....
1898,	2	1,085 27	+132 87	+114 81
SAWS.				
1896,	3	1,574 75	....	....
1897,	3	1,428 75	—146 00	....
1898,	3	1,624 21	+195 46	+49 46
PLUMBER SUPPLIES.				
1896,	3	1,122 92	....	....
1897,	3	1,044 52	—78 40	....
1898,	3	1,136 85	+92 33	+13 93

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$1,445 20	....	....
1897,	4	1,594 02	+$148 82	....
1898,	4	1,949 52	+355 50	+$504 32
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	1,492 80	....	....
1897,	8	1,571 52	+78 72	....
1898,	8	1,888 85	+317 33	+396 05
SAFES AND VAULT DOORS.				
1896,	2	1,183 95	....	....
1897,	2	1,259 81	+75 86	....
1898,	2	1,265 17	+5 36	+81 22
IRON BEDS.				
1896,	2	748 97	....	....
1897,	2	663 50	—85 47	....
1898,	2	819 30	+155 80	+70 43
ORNAMENTAL METAL WORK.				
1896,	2	1,577 79	....	....
1897,	2	1,540 46	—37 33	....
1898,	2	1,163 69	—376 77	—414 10
METAL AND METALLIC GOODS.				
1896,	3	834 99	....	....
1897,	3	889 37	+54 38	....
1898,	3	922 20	+32 83	+87 21

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896, ...	1	$1,219 61	....	....
1897, ...	1	1,237 50	+$17 89	....
1898, ...	1	1,098 68	—138 82	—$120 93
STRUCTURAL IRON WORK.				
1896, ...	1	1,668 01	....	....
1897, ...	1	2,020 86	+352 85	....
1898, ...	1	2,686 42	+665 56	+1,018 41
IRON CHAINS.				
1896, ...	5	1,433 15	....	....
1897, ...	5	1,456 06	+22 91	....
1898, ...	5	1,521 58	+65 52	+88 43
IRON FENCES AND RAILING.				
1896, ...	7	1,512 67	....	....
1897, ...	7	1,456 41	—56 26	....
1898, ...	7	1,484 60	+28 19	—28 07
AGRICULTURAL IMPLEMENTS.				
1896, ...	13	1,661 84	....	....
1897, ...	13	1,774 89	+113 05	....
1898, ...	13	1,850 22	+75 33	+188 38
STEAM PUMPS.				
1896, ...	2	2,183 31	....	....
1897, ...	2	1,782 06	—401 25	....
1898, ...	2	2,076 23	+294 17	—107 08

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$2,730 15	....	....
1897,	4	2,354 11	—$376 04	....
1898,	4	1,993 97	—360 14	—$736 18
PIANOS AND ORGANS.				
1896,	4	1,613 24	....	....
1897,	4	1,579 25	—33 99	....
1898,	4	1,373 88	—205 37	—239 36
TINWARE.				
1896,	5	1,679 57	....	....
1897,	5	1,698 18	+18 61	....
1898,	5	1,687 77	—10 41	+8 20
PAPER MANUFACTORIES.				
1896,	10	2,237 97	....	....
1897,	10	2,250 28	+12 31	....
1898,	10	2,231 03	—19 25	—6 94
WALL PAPER.				
1896,	5	2,167 66	....	....
1897,	5	2,471 06	+303 40	....
1898,	5	2,757 75	+286 69	+590 09
CIGARS.				
1896,	50	1,094 31	....	....
1897,	50	1,112 92	+18 61	....
1898,	50	1,143 83	+30 91	+49 52

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$1,216 35	....	....
1897,	3	1,185 20	—$31 25	....
1898,	3	1,157 48	—27 72	—$58 87
CORDAGE, ROPE AND TWINE.				
1896,	6	2,323 33	....	....
1897,	6	2,221 61	—101 72	....
1898,	6	2,356 99	+135 38	+33 66
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	1,100 68	....	....
1897,	27	1,072 25	—28 43	....
1898,	27	923 21	—149 04	—177 47
POTTERY.				
1896,	3	1,152 63	....	....
1897,	3	1,080 88	—71 75	....
1898,	3	1,175 91	+95 03	+23 28
PAVING BRICK.				
1896,	9	746 36	....	....
1897,	9	800 43	+54 07	....
1898,	9	720 59	—79 84	—25 77
BUILDING BRICK.				
1896,	41	791 95	....	....
1897,	41	799 02	+7 07	....
1898,	41	766 27	—32 75	—25 68

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$877 90	....	....
1897,	18	814 35	—$63 55	....
1898,	18	823 12	+8 77	—$54 78
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	460 79	....	....
1897,	7	607 78	+146 99	....
1898,	7	676 88	+69 10	+216 09
SCHOOL SLATES.				
1896,	3	638 59	....	....
1897,	3	841 63	+203 04	....
1898,	3	806 21	—35 42	+167 62
SLATE ROOFING, ETC., SQUARES.				
1896,	17	484 69	....	....
1897,	17	539 04	+54 35	....
1898,	17	415 56	—123 48	—69 13
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	844 49	....	....
1897,	30	925 89	+81 40	....
1898,	30	966 33	+40 44	+121 84
GLAZED AND CHROME KID.				
1896,	7	2,954 00	....	....
1897,	7	3,271 67	+317 67	....
1898,	7	3,388 87	+117 20	+434 87

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$1,477 95	....	....
1897,	18	1,495 75	+$17 80	....
1898,	18	1,536 73	+40 98	+$58 78
SUSPENDERS.				
1896,	2	2,900 91	....	....
1897,	2	2,909 17	+8 26	....
1898,	2	3,082 68	+173 51	+181 77
HATS AND CAPS.				
1896,	3	1,285 10	....	....
1897,	3	1,599 30	+314 20	....
1898,	3	1,316 34	—282 96	+31 24
FUR AND FELT HATS.				
1896,	5	1,503 45	....	....
1897,	5	1,487 22	—16 23	....
1898,	5	1,377 16	—110 06	—126 29
WOOL HATS.				
1896,	8	1,292 81	....	....
1897,	8	1,408 91	+116 60	....
1898,	8	1,250 02	—158 89	—42 29
UMBRELLAS AND PARASOLS.				
1896,	6	1,980 11	....	....
1897,	6	2,154 18	+174 07	....
1898,	6	2,309 76	+155 58	+329 65

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$1,103 71	....	....
1897,	8	1,056 49	—$47 22	....
1898,	8	1,107 11	+50 62	+$3 40
SHIRTS AND SHIRT WAISTS.				
1896,	11	1,128 39	....	....
1897,	11	1,045 23	—83 16	....
1898,	11	1,072 95	+27 72	—55 44
NECK WEAR.				
1896,	5	1,883 77	....	....
1897,	5	1,884 11	+34	....
1898,	5	1,933 84	+49 73	+50 07
COTTON AND WOOLEN CLOTHS.				
1896,	26	1,221 84	....	....
1897,	26	1,350 15	+128 31	....
1898,	26	1,382 52	+32 37	+160 68
CARPETS.				
1896,	20	1,599 87	....	....
1897,	20	1,699 40	+99 53	....
1898,	20	1,717 87	+18 47	+118 00
CLOTHING.				
1896,	9	986 82	....	....
1897,	9	905 63	—81 19	....
1898,	9	961 63	+56 00	—25 19

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual productper employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$960 53	....	....
1897,	20	1,026 65	+$66 12	....
1898,	20	1,030 61	+3 96	+$70 08
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	1,439 84	....	....
1897,	13	1,671 14	+231 30	....
1898,	13	1,623 10	—48 04	+183 26
WOOLEN AND WORSTED FABRICS.				
1896,	17	1,392 21	....	....
1897,	17	1,592 49	+200 28	....
1898,	17	1,687 10	+94 61	+294 89
WOOLEN AND WORSTED YARNS.				
1896,	13	1,725 31	....	....
1897,	13	2,081 35	+356 04	....
1898,	13	2,597 27	+515 92	+871 96
RUGS, YARNS, ETC.				
1896,	6	1,283 85	....	....
1897,	6	1,307 94	+24 09	....
1898,	6	1,335 85	+27 91	+52 00
CARPET YARNS.				
1896,	12	2,177 24	....	....
1897,	12	2,783 64	+606 40	....
1898,	12	2,368 89	—414 75	+191 65

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$1,619 70	....	....
1897,	8	1,561 04	—$58 66	....
1898,	8	1,550 75	—10 29	—$68 95
WORSTED YARNS.				
1896,	9	1,609 94	....	....
1897,	9	1,890 57	+280 63	....
1898,	9	1,666 22	—224 35	+56 28
COTTON AND WOOLEN YARNS.				
1896,	5	1,306 84	....	....
1897,	5	1,422 82	+115 98	....
1898,	5	1,382 99	—39 83	+76 15
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	1,788 58	....	....
1897,	5	1,698 89	—89 69	....
1898,	5	1,982 50	+283 61	+193 92
LACE GOODS.				
1896,	3	1,191 73	....	....
1897,	3	1,271 28	+79 55	....
1898,	3	1,252 26	—19 02	+60 53
CHENILLE GOODS.				
1896,	4	814 66	....	....
1897,	4	842 65	+27 99	....
1898,	4	955 58	+112 93	+140 92

VALUE OF AVERAGE ANNUAL PRODUCT PER EMPLOYE—Continued.

COMPARISON OF VALUE OF PRODUCTION PER EMPLOYE—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average annual product per employe.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$1,379 96	....	....
1897,	10	1,390 97	+$11 01	....
1898,	10	1,457 76	+66 79	+$77 80
KNIT GOODS, UNDERWEAR.				
1896,	16	1,279 61	....	....
1897,	16	1,316 27	+36 66	....
1898,	16	1,360 38	+44 11	+80 77
HOSIERY.				
1896,	34	770 64	....	....
1897,	34	803 02	+32 38	....
1898,	34	821 85	+18 83	+51 21
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	1,460 83	....	....
1897,	7	1,364 42	—96 41	....
1898,	7	1,439 52	+75 10	—21 31
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	1,097 52	....	....
1897,	3	1,138 47	+40 95	....
1898,	3	1,288 84	+150 37	+191 32
SILKS—RIBBONS.				
1896,	4	1,636 01	....	....
1897,	4	1,674 56	+38 55	....
1898,	4	1,684 26	+9 70	+48 25

AVERAGE YEARLY EARNINGS.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the average yearly earnings by the same establishments for the years 1896, 1897 and 1897 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$455 72	......	......
1897,	7	447 85	—$7 87	......
1898,	7	454 28	+6 43	—$1 44
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	445 33	......	......
1897,	5	490 36	+45 03	......
1898,	5	588 14	+97 78	+142 81
TOOL STEEL.				
1896,	2	566 31	......	......
1897,	2	484 32	—81 99	......
1898,	2	739 96	+255 64	+173 65
IRON AND STEEL SPECIALTIES.				
1896,	3	367 64	......	......
1897,	3	342 08	—25 56	......
1898,	3	288 17	—53 91	—79 47

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL FORGINGS.				
1896,	7	$478 61	....	....
1897,	7	495 18	+$16 57	....
1898,	7	552 82	+57 64	+$74 21
IRON SPECIALTIES.				
1896,	2	478 38	......	......
1897,	2	504 44	+26 06	......
1898,	2	534 29	+29 85	+55 91
MALLEABLE IRON.				
1896,	4	450 75	......	......
1897,	4	460 86	+10 11	......
1898,	4	473 67	+12 81	+22 92
BOLTS, NUTS, ETC.				
1896,	8	384 27	......	......
1897,	8	318 97	—65 30	......
1898,	8	345 19	+26 22	—39 08
SPIKES AND RIVETS.				
1896,	2	432 24	......	......
1897,	2	357 24	—75 00	......
1898,	2	358 62	+1 38	—73 62
WIRE NAILS.				
1896,	3	305 23	......	......
1897,	3	384 62	+79 39	......
1898,	3	272 32	—112 30	—32 91

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
TACKS AND SMALL NAILS.				
1896,	4	$289 18	......	......
1897,	4	278 53	—$10 65	......
1898,	4	360 04	+81 51	+$70 86
WIRE.				
1896,	6	457 03	......	......
1897,	6	404 55	—52 48	......
1898,	6	478 83	+74 28	+21 80
WIRE ROPE.				
1896,	2	443 72	......	......
1897,	2	450 67	+6 95	......
1898,	2	467 67	+17 00	+23 95
WIRE GOODS.				
1896,	4	258 85	......	......
1897,	4	310 84	+51 99	......
1898,	4	260 96	—49 88	+2 11
WAGON AND CARRIAGE AXLES.				
1896,	4	471 41	......	......
1897,	4	505 84	+34 43	......
1898,	4	523 31	+17 47	+51 90
CARRIAGE AND WAGON SPRINGS.				
1896,	2	578 07	......	......
1897,	2	519 98	—58 09	......
1898,	2	514 09	—5 89	—63 98

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
SCALES, ETC.				
1896,	5	$579 58	......	......
1897,	5	567 82	—$11 76	......
1898,	5	568 47	+65	—$11 11
STOVES, HEATERS, RANGES, ETC.				
1896,	39	470 95	......	......
1897,	39	464 10	—6 85	......
1898,	39	483 14	+19 04	+12 19
BATH BOILERS, TANKS, ETC.				
1896,	2	465 04	......	......
1897,	2	446 36	—18 68	......
1898,	2	425 34	—21 02	—39 70
HARDWARE SPECIALTIES.				
1896,	14	400 42	......	......
1897,	14	398 69	—1 73	......
1898,	14	392 28	—6 41	—8 14
EDGE TOOLS.				
1896,	12	435 70	......	......
1897,	12	368 79	—66 91	......
1898,	12	457 51	+88 72	+21 81
WRENCHES, PICKS, ETC.				
1896,	5	428 91	......	......
1897,	5	419 91	—9 00	......
1898,	5	511 49	+91 58	+82 58

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	$485 43	......	......
1897,	3	524 84	+$39 41	......
1898,	3	571 93	+47 09	+$86 50
CAR SPRINGS.				
1896,	3	567 17	......	......
1897,	3	537 26	—29 91	......
1898,	3	597 64	+60 38	+30 47
CAR WHEELS AND CAR AXLES.				
1896,	2	384 17	......	......
1897,	2	358 13	—26 04	......
1898,	2	439 27	+81 14	+55 10
FREIGHT AND STREET CARS, ETC.				
1896,	4	214 59	......	......
1897,	4	245 36	+30 77	......
1898,	4	329 59	+84 23	+115 00
WROUGHT IRON PIPE AND TUBES.				
1896,	5	407 72	......	......
1897,	5	400 32	—7 40	......
1898,	5	430 62	+30 30	+22 90
CAST IRON PIPE.				
1896,	3	412 89	......	......
1897,	3	408 02	—4 87	......
1898,	3	382 51	—25 51	—30 38

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	$431 99	......	......
1897,	22	424 98	—$7 01	......
1898,	22	447 54	+22 56	+$15 55
IRON AND STEEL BRIDGES.				
1896,	8	504 77	......	......
1897,	8	479 88	—24 89	......
1898,	8	455 14	—24 74	—49 63
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	561 53	......	......
1897,	9	536 69	—24 84	......
1898,	9	572 26	+35 57	+10 73
ENGINES, BOILERS, ETC.				
1896,	10	522 13	......	......
1897,	10	497 57	—24 56	......
1898,	10	523 57	+26 00	+1 44
RAILWAY SWITCHES, ETC.				
1896,	2	521 37	......	......
1897,	2	488 05	—33 32	......
1898,	2	519 07	+31 02	—2 30
RAILWAY SUPPLIES.				
1896,	1	520 41	......	......
1897,	1	440 00	—80 41	......
1898,	1	500 00	+60 00	—20 41

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON VESSELS AND ENGINES.				
1896,	4	$572 81	......	......
1897,	4	546 22	—$26 59	......
1898,	4	535 08	—11 14	—$37 73
BOILERS, TANKS, STACKS, ETC.				
1896,	21	467 08	......	......
1897,	21	474 32	+7 24	......
1898,	21	461 68	—12 64	—5 40
MACHINERY.				
1896,	21	525 65	......	......
1897,	21	511 44	—14 21	......
1898,	21	541 79	+30 35	+16 14
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	450 22	......	......
1897,	25	473 93	+23 71	......
1898,	25	483 99	+10 06	+33 77
FILES, ETC.				
1896,	2	328 99	......	......
1897,	2	320 24	—8 75	......
1898,	2	318 57	—1 67	—10 42
SAWS.				
1896,	3	459 73	......	......
1897,	3	431 14	—28 59	......
1898,	3	488 06	+56 92	+28 33

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
PLUMBER SUPPLIES.				
1896,	3	$436 32	......	......
1897,	3	409 55	—$26 77	......
1898,	3	448 67	+39 12	+$12 35
ELECTRICAL SUPPLIES.				
1896,	4	504 78	......	......
1897,	4	545 17	+40 39	......
1898,	4	551 56	+6 39	+46 78
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	399 23	......	......
1897,	8	395 43	—3 80	......
1898,	8	448 09	+52 66	+48 86
SAFES AND VAULT DOORS.				
1896,	2	426 22	......	......
1897,	2	479 25	+53 03	......
1898,	2	504 23	+24 98	+78 01
IRON BEDS.				
1896,	2	213 70	......	......
1897,	2	206 33	—7 37	......
1898,	2	231 22	+24 89	+17 52
ORNAMENTAL METAL WORK.				
1896,	2	630 93	......	......
1897,	2	582 23	—48 70	......
1898,	2	508 63	—73 60	—122 30

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
METAL AND METALLIC GOODS.				
1896,	3	$303 56	......	......
1897,	3	317 41	+$13 85	......
1898,	3	329 26	+11 85	+$25 70
BUILDING IRON WORK.				
1896,	1	505 38	......	......
1897,	1	566 35	+60 97	......
1898,	1	539 10	—27 25	+33 72
STRUCTURAL IRON WORK.				
1896,	1	508 77	......	......
1897,	1	510 84	+2 07	......
1898,	1	522 51	+11 67	+13 74
IRON CHAINS.				
1896,	5	396 22	......	......
1897,	5	418 49	+22 27	......
1898,	5	447 18	+28 69	+50 96
IRON FENCES AND RAILING.				
1896,	7	474 84	......	......
1897,	7	489 23	+14 39	......
1898,	7	453 94	—35 29	—20 90
AGRICULTURAL IMPLEMENTS.				
1896,	13	439 85	......	......
1897,	13	439 31	—54	......
1898,	13	470 46	+31 15	+30 61

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEAM PUMPS.				
1896,	2	$793 26	......	......
1897,	2	736 46	—$56 80	......
1898,	2	741 93	+5 47	—$51 33
BICYCLES.				
1896,	4	523 21	......	......
1897,	4	573 43	+50 22	......
1898,	4	453 00	—120 43	—70 21
PIANOS AND ORGANS.				
1896,	4	533 53	......	......
1897,	4	499 19	—34 34	......
1898,	4	492 55	—6 64	—40 98
TINWARE.				
1896,	5	378 66	......	......
1897,	5	388 75	+10 09	......
1898,	5	370 93	—17 82	—7 73
PAPER MANUFACTORIES.				
1896,	10	381 22	......	......
1897,	10	395 56	+14 34	......
1898,	10	395 83	+27	+14 61
WALL PAPER.				
1896,	5	323 79	......	......
1897,	5	337 41	+13 62	......
1898,	5	357 11	+19 70	+33 32

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CIGARS.				
1896,	50	$277 87	......	......
1897,	50	280 46	+$2 59	......
1898,	50	289 15	+8 69	+$11 28
BOOK BINDING.				
1896,	3	470 70	......	......
1897,	3	484 51	+13 81	......
1898,	3	482 65	—1 86	+11 95
CORDAGE, ROPE AND TWINE.				
1896,	6	302 10	......	......
1897 ,	6	322 70	+20 60	......
1898,	6	322 88	+18	+20 78
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	270 89	......	......
1897,	27	267 51	—3 38	......
1898,	27	229 67	—37 84	—41 22
POTTERY.				
1896,	3	455 03	......	......
1897,	3	430 09	—24 94	......
1898,	3	433 82	+3 73	—21 21
PAVING BRICK.				
1896,	9	319 83	......	......
1897,	9	331 96	+12 13	......
1898,	9	305 12	—26 84	—14 71

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING BRICK.				
1896,	41	$337 41	......	......
1987,	41	344 57	+$7 16	......
1898,	41	335 28	—9 29	—$2 13
FIRE BRICK.				
1896,	18	389 26	......	......
1897,	18	373 08	—16 18	......
1898,	18	362 41	—10 67	—26 85
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	304 82	......	......
1897,	7	325 82	+21 00	......
1898,	7	324 54	—1 28	+19 72
SCHOOL SLATES.				
1896,	3	156 32	......	......
1897,	3	170 65	+14 33	......
1898,	3	175 24	+4 59	+18 92
SLATE ROOFING, ETC., SQUARES.				
1896,	17	315 23	......	......
1897,	17	325 70	+10 47	......
1898,	17	259 81	—65 89	—55 42
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	384 24	......	......
1897,	30	412 85	+28 61	......
1898,	30	426 66	+13 81	+42 42

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
GLAZED AND CHROME KID.				
1896,	7	$353 15	......	......
1897,	7	394 82	+$41 67	......
1898,	7	393 26	—1 56	+$40 11
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1986,	18	338 67	......	......
1897,	18	352 32	+13 65	......
1898,	18	355 62	+3 30	+16 95
SUSPENDERS.				
1896,	2	281 24	......	......
1897,	2	282 80	+1 56	......
1898,	2	322 83	+40 03	+41 59
HATS AND CAPS.				
1896,	3	296 23	......	......
1897,	3	366 74	+70 51	......
1898,	3	314 97	—51 77	+18 74
FUR AND FELT HATS.				
1896,	5	399 97	......	......
1897,	5	491 08	+91 11	......
1898,	5	473 42	—17 66	+73 45
WOOL HATS.				
1896,	8	315 41	......	......
1897,	8	312 78	—2 63	......
1898,	8	292 26	—20 52	—23 15

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
UMBRELLAS AND PARASOLS.				
1896,	6	$243 29	......	......
1897,	6	299 63	+$56 34	......
1898,	6	271 45	—28 18	+$28 16
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	270 87	......	......
1897,	8	272 97	+2 10	......
1898,	8	267 84	—5 13	—3 03
SHIRTS AND SHIRT WAISTS.				
1896,	11	284 08	......	......
1897,	11	266 07	—18 01	......
1898,	11	265 93	—14	—18 15
NECK WEAR.				
1896,	5	370 51	......	......
1897,	5	348 68	—21 83	......
1898,	5	363 62	+14 94	—6 89
COTTON AND WOOLEN CLOTHS.				
1896,	26	317 14	......	......
1897,	26	345 28	+28 14	......
1898,	26	350 05	+4 77	+32 91
CARPETS.				
1896,	20	349 23	......	......
1897,	20	369 53	+20 30	......
1898,	20	360 54	—8 99	+11 31

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CLOTHING.				
1896,	9	$209 87	......	......
1897,	9	187 36	—$22 51	......
1898,	9	200 62	+13 26	—$9 25
COTTON GOODS.				
1896,	20	281 44	......	......
1897,	20	309 68	+28 24	......
1898,	20	318 99	+9 31	+37 55
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	310 72	......	......
1897,	13	337 31	+26 59	......
1898,	13	336 64	—67	+25 92
WOOLEN AND WORSTED FABRICS.				
1896,	17	282 90	......	......
1897,	17	315 36	+32 46	......
1898,	17	336 29	+20 93	+53 39
WOOLEN AND WORSTED YARNS.				
1896,	13	279 18	......	......
1897,	13	310 41	+31 23	......
1898,	13	301 38	—9 03	+22 20
RUGS, YARNS, ETC.				
1896,	6	318 98	......	......
1897,	6	318 36	—62	......
1898,	6	336 83	+18 47	+17 85

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CARPET YARNS.				
1896,	12	$338 74	......	......
1897,	12	373 05	+$34 31	......
1898,	12	331 56	—41 49	—$7 18
COTTON YARNS.				
1896,	8	270 24	......	......
1897,	8	281 87	+11 63	......
1898,	8	301 18	+19 31	+30 94
WORSTED YARNS.				
1896,	9	267 24	......	......
1897,	9	268 49	+1 25	......
1898,	9	260 25	—8 24	—6 99
COTTON AND WOOLEN YARNS.				
1896,	5	296 73	......	......
1897,	5	314 13	+17 40	......
1898,	5	317 82	+3 69	+21 09
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	358 52	......	......
1897,	5	367 74	+9 22	......
1898,	5	329 54	—38 20	—28 98
LACE GOODS.				
1896,	3	253 95	......	......
1897,	3	261 33	+7 38	......
1898,	3	277 11	+15 78	+23 16

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CHENILLE GOODS.				
1896,	4	$224 91	......	......
1897,	4	248 93	+$24 02	......
1898,	4	276 59	+27 66	+$51 68
UPHOLSTERY GOODS.				
1896,	10	348 00	......	......
1897,	10	371 79	+23 79	......
1898,	10	398 38	+26 59	+50 38
KNIT GOODS, UNDERWEAR.				
1896,	16	262 92	......	......
1897,	16	263 38	+46	......
1898,	16	268 47	+5 09	+5 55
HOSIERY.				
1896,	34	234 02	......	......
1897,	34	246 68	+12 66	......
1898,	34	252 20	+5 52	+18 18
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	252 20	......	......
1897,	7	230 67	—21 53	......
1898,	7	240 60	+9 93	—11 60

AVERAGE YEARLY EARNINGS—Continued.

COMPARISON OF AVERAGE YEARLY EARNINGS OF EMPLOYES, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average yearly earnings.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	$247 28	......	......
1897,	3	232 26	—$15 02	......
1898,	3	233 57	+1 31	—$13 71
SILKS—RIBBONS.				
1896,	4	291 88	......	......
1897,	4	350 45	+58 57	......
1898,	4	336 36	—14 09	+44 48

AVERAGE DAILY WAGE.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the average daily wage of employes, skilled and unskilled, in the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	$1 57	......	......
1897,	7	1 44	—$0 13	......
1898,	7	1 46	+02	—$0 11
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	2 18	......	......
1897,	5	1 69	—49	......
1898,	5	2 06	+37	—12
TOOL STEEL.				
1896,	2	2 12	......	......
1897,	2	1 94	—18	......
1898,	2	2 31	+37	+19
IRON AND STEEL SPECIALTIES.				
1896,	3	1 24	......	......
1897,	3	1 20	—04	......
1898,	3	1 00	—20	—24
IRON AND STEEL FORGINGS.				
1896,	7	1 87	......	......
1897,	7	1 76	—11	......
1898,	7	1 89	+13	+02

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896, ...	2	$1 59	......	......
1897, ...	2	1 68	+09	......
1898, ...	2	1 77	+09	+18
MALLEABLE IRON.				
1896, ...	4	1 54	......	......
1897, ...	4	1 58	+04	......
1898, ...	4	1 59	+01	+05
BOLTS, NUTS, ETC.				
1896, ...	8	1 64	......	......
1897, ...	8	1 22	—42	......
1898, ...	8	1 26	+04	—38
SPIKES AND RIVETS.				
1896, ...	2	1 54	......	......
1897, ...	2	1 26	—28	......
1898, ...	2	1 23	—03	—31
WIRE NAILS.				
1896, ...	3	1 29	......	......
1897, ...	3	1 56	+27	......
1898, ...	3	1 51	—05	+22
TACKS AND SMALL NAILS.				
1896, ...	4	1 28	......	......
1897, ...	4	1 33	+05	......
1898, ...	4	1 45	+12	+17

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE.				
1896,	6	$1 58	......	......
1897,	6	1 49	—09	......
1898,	6	1 54	+05	—04
WIRE ROPE.				
1896,	2	1 47	......	......
1897,	2	1 49	+02	......
1898,	2	1 54	+05	+07
WIRE GOODS.				
1896,	4	89	......	......
1897,	4	1 04	+15	......
1898,	4	86	—18	—03
WAGON AND CARRIAGE AXLES.				
1896,	4	1 87	......	......
1897,	4	1 82	—05	......
1898,	4	1 79	—03	—08
CARRIAGE AND WAGON SPRINGS.				
1896,	2	2 22	......	......
1897,	2	2 00	—22	......
1898,	2	1 91	—09	—31
SCALES, ETC.				
1896,	5	2 08	......	......
1897,	5	1 98	—10	......
1898,	5	1 90	—08	—18

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	$2 25	......	......
1897,	39	2 04	—21	......
1898,	39	2 04	......	—21
BATH BOILERS, TANKS, ETC.				
1896,	2	1 50	......	......
1897,	2	1 46	—04	......
1898,	2	1 41	—05	—09
HARDWARE SPECIALTIES.				
1896,	14	1 54	......	......
1897,	14	1 48	—06	......
1898,	14	1 53	+05	—01
EDGE TOOLS.				
1896,	12	1 77	......	......
1897,	12	1 62	—15	......
1898,	12	1 57	—05	—20
WRENCHES, PICKS, ETC.				
1896,	5	1 79	......	......
1897,	5	1 58	—21	......
1898,	5	1 88	+30	+09
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	1 78	......	......
1897,	3	1 86	+08	......
1898,	3	1 93	+07	+15

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	$2 02	......	......
1897,	3	1 93	—09	......
1898,	3	2 01	+08	—01
CAR WHEELS AND CAR AXLES.				
1896,	2	1 34	......	......
1897,	2	1 24	—10	......
1898,	2	1 43	+19	+09
FREIGHT AND STREET CARS, ETC.				
1896,	4	1 25	......	......
1897,	4	1 13	—12	......
1898,	4	1 23	+10	—02
WROUGHT IRON PIPE AND TUBES.				
1896,	5	1 44	......	......
1897,	5	1 34	—10	......
1898,	5	1 42	+08	—02
CAST IRON PIPE.				
1896,	3	1 37	......	......
1897,	3	1 35	—02	......
1898,	3	1 29	—06	—08
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	1 46	......	......
1897,	22	1 45	—01	......
1898,	22	1 50	+05	+04

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	$1 72	......	......
1897,	8	1 61	—11	......
1898,	8	1 51	—10	—21
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	1 84	......	......
1897,	9	1 75	—09	......
1898,	9	1 88	+13	+04
ENGINES, BOILERS, ETC.				
1896,	10	1 77	......	......
1897,	10	1 69	—08	......
1898,	10	1 72	+03	—05
RAILWAY SWITCHES, ETC.				
1896,	2	1 82	......	......
1897,	2	1 59	—23	......
1898,	2	1 70	+11	—12
RAILWAY SUPPLIES.				
1896,	1	1 79	......	......
1897,	1	1 47	—32	......
1898,	1	1 67	+20	—12
IRON VESSELS AND ENGINES.				
1896,	4	1 87	......	......
1897,	4	1 79	—08	......
1898,	4	1 76	—03	—11

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	$1 63	......	......
1897,	21	1 66	+03	......
1898,	21	1 59	—07	—04
MACHINERY.				
1896,	21	1 75	......	......
1897,	21	1 66	—09	......
1898,	21	1 81	+15	+06
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	1 57	......	......
1897,	25	1 61	+04	......
1898,	25	1 63	+02	+06
FILES, ETC.				
1896,	2	1 20	......	......
1897,	2	1 20	......	......
1898,	2	1 15	—05	—05
SAWS.				
1896,	3	2 01	......	......
1897,	3	2 05	+04	......
1898,	3	2 00	—05	—01
PLUMBER SUPPLIES.				
1896,	3	1 55	......	......
1897,	3	1 52	—03	......
1898,	3	1 55	+03	......

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	$1 75	......	......
1897,	4	1 84	+09	......
1898,	4	1 83	—01	+08
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	1 90	......	......
1897,	8	1 81	—09	......
1898,	8	1 82	+01	—08
SAFES AND VAULT DOORS.				
1896,	2	1 39	......	......
1897,	2	1 59	+20	......
1898,	2	1 69	+10	+30
IRON BEDS.				
1896,	2	99	......	......
1897,	2	70	—29	......
1898,	2	76	+06	—23
ORNAMENTAL METAL WORK.				
1896,	2	2 09	......	......
1897,	2	1 97	—12	......
1898,	2	1 71	—26	—38
METAL AND METALLIC GOODS.				
1896,	3	1 29	......	......
1897,	3	1 23	—06	......
1898,	3	1 29	+06	......

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	$1 68	......	......
1897,	1	1 89	+21	......
1898,	1	1 77	—12	+09
STRUCTURAL IRON WORK.				
1896,	1	1 69	......	......
1897,	1	1 69	......	......
1898,	1	1 70	+01	+01
IRON CHAINS.				
1896,	5	1 50	......	......
1897,	5	1 54	+04	......
1898,	5	1 50	—04	......
IRON FENCES AND RAILING.				
1896,	7	1 62	......	......
1897,	7	1 64	+02	......
1898,	7	1 49	—15	—13
AGRICULTURAL IMPLEMENTS.				
1896,	13	1 54	......	......
1897,	13	1 50	—04	......
1898,	13	1 57	+07	+03
STEAM PUMPS.				
1896,	2	2 58	......	......
1897,	2	2 40	—18	......
1898,	2	2 44	+04	—14

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	$1 91	......	......
1897,	4	2 05	+14	......
1898,	4	1 63	—42	—28
PIANOS AND ORGANS.				
1896,	4	1 82	......	......
1897,	4	1 69	—13	......
1898,	4	1 72	+03	—10
TINWARE.				
1896,	5	1 26	......	......
1897,	5	1 29	+03	......
1898,	5	1 24	—05	—02
PAPER MANUFACTORIES.				
1896,	10	1 46	......	......
1897,	10	1 43	—03	......
1898,	10	1 41	—02	—05
WALL PAPER.				
1896,	5	1 36	......	......
1897,	5	1 27	—09	......
1898,	5	1 30	+03	—06
CIGARS.				
1896,	50	98	......	......
1897,	50	97	—01	......
1898,	50	99	+02	+01

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	$1 56	......	......
1897,	3	1 73	+17	......
1898,	3	1 70	—03	+14
CORDAGE, ROPE AND TWINE.				
1896,	6	1 04	......	......
1897,	6	1 02	—02	......
1898,	6	1 03	+01	—01
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	91	......	......
1897,	27	89	—02	......
1898,	27	76	—13	—15
POTTERY.				
1896,	3	1 61	......	......
1897,	3	1 54	—07	......
1898,	3	1 50	—04	—11
PAVING BRICK.				
1896,	9	1 30	......	......
1897,	9	1 36	+06	......
1898,	9	1 33	—03	+03
BUILDING BRICK.				
1896,	41	1 51	......	......
1897,	41	1 59	+08	......
1898,	41	1 57	—02	+06

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	$1 37	......	......
1897,	18	1 33	—04	......
1898,	18	1 49	+16	+12
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	1 30	......	......
1897,	7	1 42	+12	......
1898,	7	1 31	—11	+01
SCHOOL SLATES.				
1896,	3	83	......	......
1897,	3	73	—10	......
1898,	3	85	+12	+02
SLATE ROOFING, ETC., SQUARES.				
1896,	17	1 31	......	......
1897,	17	1 36	+05	......
1898,	17	1 43	+07	+12
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	1 61	......	......
1897,	30	1 62	+01	......
1898,	30	1 64	+02	+03
GLAZED AND CHROME KID.				
1896,	7	1 18	......	......
1897,	7	1 31	+13	......
1898,	7	1 32	+01	+14

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	$1 21	......	......
1897,	18	1 21	......	......
1898,	18	1 23	+02	+02
SUSPENDERS.				
1896,	2	95	......	......
1897,	2	70	—25	......
1898,	2	1 09	+39	+14
HATS AND CAPS.				
1896,	3	1 22	......	......
1897,	3	1 27	+05	......
1898,	3	1 10	—17	—12
FUR AND FELT HATS.				
1896,	5	1 30	......	......
1897,	5	1 59	+29	......
1898,	5	1 54	—05	+24
WOOL HATS.				
1896,	8	1 19	......	......
1897,	8	1 23	+04	......
1898,	8	1 07	—16	—12
UMBRELLAS AND PARASOLS.				
1896,	6	79	......	......
1897,	6	97	+18	......
1898,	6	88	—09	+09

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	$0 94	......	......
1897,	8	93	—01	......
1898,	8	90	—03	—04
SHIRTS AND SHIRT WAISTS.				
1896,	11	1 00	......	......
1897,	11	90	—10	......
1898,	11	90	......	—10
NECK WEAR.				
1896,	5	1 23	......	......
1897,	5	1 15	—08	......
1898,	6	1 20	+05	—03
COTTON AND WOOLEN CLOTHS.				
1896,	26	1 18	......	......
1897,	26	1 20	+02	......
1898,	26	1 32	+12	+14
CARPETS.				
1896,	20	1 33	......	......
1897,	20	1 27	—06	......
1898,	20	1 24	—03	—09
CLOTHING.				
1896,	9	75	......	......
1897,	9	62	—13	......
1898,	9	66	+04	—09

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	$1 09	......	......
1897,	20	1 12	+03	......
1898,	20	1 10	—02	+01
WOOLEN AND WORSTED CASSIMERES..				
1896,	13	1 17	......	......
1897,	13	1 20	+03	......
1898,	13	1 20	......	+03
WOOLEN AND WORSTED FABRICS.				
1896,	17	1 14	......	......
1897,	17	1 09	—05	......
1898,	17	1 17	+08	+03
WOOLEN AND WORSTED YARNS.				
1896,	13	1 11	......	......
1897,	13	1 07	—04	......
1898,	13	1 05	—02	—06
RUGS, YARNS, ETC.				
1896,	6	1 25	......	......
1897,	6	1 17	—08	......
1898,	6	1 20	+03	—05
CARPET YARNS.				
1896,	13	1 28	......	......
1897,	13	1 27	—01	......
1898,	13	1 27	......	—01

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	$1 03	......	......
1897,	8	1 02	—01	......
1898,	8	1 02	......	—01
WORSTED YARNS.				
1896,	9	1 12	......	......
1897,	9	93	—19	......
1898,	9	95	+02	—17
COTTON AND WOOLEN YARNS.				
1896,	5	1 10	......	......
1897,	5	1 08	—02	......
1898,	5	1 08	......	—02
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	1 18	......	......
1897,	5	1 22	+04	......
1898,	5	94	—28	—24
LACE GOODS.				
1896,	3	93	......	......
1897,	3	88	—05	......
1898,	3	90	+02	—03
CHENILLE GOODS.				
1896,	4	81	......	......
1897,	4	84	+03	......
1898,	4	92	+08	+11

AVERAGE DAILY WAGE—Continued.

COMPARISON OF AVERAGE DAILY WAGE, SKILLED AND UNSKILLED—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Average daily wage.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	$1 18	......	......
1897,	10	1 24	+06	......
1898,	10	1 32	+08	+14
KNIT GOODS, UNDERWEAR.				
1896,	16	97	......	......
1897,	16	91	—06	......
1898,	16	96	+05	—01
HOSIERY.				
1896,	34	91	......	......
1897,	34	85	—06	......
1898,	34	88	+03	—03
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	94	......	......
1897,	7	77	—17	......
1898,	7	83	+06	—11
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	82	......	......
1897,	3	77	—05	......
1898,	3	77	......	—05
SILKS—RIBBONS.				
1896,	4	98	......	......
1897,	4	1 17	+19	......
1898,	4	1 12	—05	+14

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the relative per cent. of cost of basic materials to value of production in same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896,	7	27.9	.....	......
1897,	7	28.9	+1.0	......
1898,	7	24.6	—4.3	—3.3
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	80.0	......	......
1897,	5	70.0	—10.0	......
1898,	5	80.8	+10.8	+.8
TOOL STEEL.				
1896,	2	37.1	......	......
1897,	2	29.7	—7.4	......
1898,	2	20.6	—9.1	—16.5
IRON AND STEEL SPECIALTIES.				
1896,	3	17.2	......	......
1897,	3	19.7	+2.5	......
1898,	3	13.9	—5.8	—3.3
IRON AND STEEL FORGINGS.				
1896,	7	38.6	......	......
1897,	7	38.9	+.3	......
1898,	7	33.9	—5.0	—4.7

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	60.4	......	......
1897,	2	64.8	+4.4	......
1898,	2	58.7	—6.1	—1.7
MALLEABLE IRON.				
1896,	4	30.5	......	......
1897,	4	28.0	—2.5	......
1898,	4	30.5	+2.5	......
BOLTS, NUTS, ETC.				
1896,	8	47.3	......	......
1897,	8	48.4	+1.1	......
1898,	8	50.1	+1.7	+2.8
SPIKES AND RIVETS.				
1896,	2	63.0	......	......
1897,	2	62.5	—.5	......
1898,	2	57.6	—4.9	—5.4
WIRE NAILS.				
1896,	3	55.0	......	......
1897,	3	58.9	+3.9	......
1898,	3	52.4	—6.5	—2.6
TACKS AND SMALL NAILS.				
1896,	4	41.7	......	......
1897,	4	38.1	—3.6	......
1898,	4	37.2	—.9	—4.5

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WIRE.				
1896,	6	51.9	......	......
1897,	6	50.4	—1.5	......
1898,	6	52.4	+2.0	+.5
WIRE ROPE.				
1896,	2	47.5	......	......
1897,	2	38.6	—8.9	......
1898,	2	37.9	—.7	—9.6
WIRE GOODS.				
1896,	4	30.7	......	......
1897,	4	31.8	+1.1	......
1898,	4	25.2	—6.6	—5.5
WAGON AND CARRIAGE AXLES.				
1896,	4	29.7	......	......
1897,	4	29.6	—.1	......
1898,	4	21.8	—7.8	—7.9
CARRIAGE AND WAGON SPRINGS.				
1896,	2	42.2	......	......
1897,	2	35.1	—7.1	......
1898,	2	31.6	—3.5	—10.6
SCALES, ETC.				
1896,	5	34.4	......	......
1897,	5	33.8	—.6	......
1898,	5	33.5	—.3	—.9

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	20.5	......	......
1897,	39	20.2	—.3	......
1898,	39	20.5	+.3	......
BATH BOILERS, TANKS, ETC.				
1896,	2	54.6	......	......
1897,	2	48.9	—5.7	......
1898,	2	49.4	+.5	—5.2
HARDWARE SPECIALTIES.				
1896,	14	26.8	......	......
1897,	14	24.9	—1.9	......
1898,	14	24.8	—.1	—2.0
EDGE TOOLS.				
1896,	12	41.9	......	......
1897,	12	28.5	—13.4	......
1898,	12	27.4	—1.1	—14.5
WRENCHES, PICKS, ETC.				
1896,	5	32.5	......	......
1897,	5	33.0	+.5	......
1898,	5	29.0	—4.0	—3.5
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	54.2	......	......
1897,	3	50.2	—4.0	......
1898,	3	52.4	+2.2	—1.8

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	41.0	......	......
1897,	3	39.7	—1.3	......
1898,	3	38.6	—1.1	—2.4
CAR WHEELS AND CAR AXLES.				
1896,	2	44.7	......	......
1897,	2	50.2	+5.5	......
1898,	2	41.5	—8.7	—3.2
FREIGHT AND STREET CARS, ETC.				
1896,	4	63.8	......	......
1897,	4	52.9	—10.9	......
1898,	4	64.9	+12.0	+1.1
WROUGHT IRON PIPE AND TUBES.				
1896,	5	66.9	......	......
1897,	5	62.6	—4.3	......
1898,	5	56.9	—5.7	—10.0
CAST IRON PIPE.				
1896,	3	66.5	......	......
1897,	3	64.8	—1.7	......
1898,	3	64.3	—.5	—2.2
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	49.7	......	......
1897,	22	54.9	+5.2	......
1898,	22	53.4	—1.5	+3.7

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	58.5	......	......
1897,	8	55.6	—2.9	......
1898,	8	57.2	+1.6	—1.3
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	48.1	......	......
1897,	9	46.1	—2.0	......
1898,	9	41.9	—4.2	—6.2
ENGINES, BOILERS, ETC.				
1896,	10	48.2	......	......
1897,	10	49.9	+1.7	......
1898,	10	49.0	—.9	+.8
RAILWAY SWITCHES, ETC.				
1896,	2	51.1	......	......
1897,	2	52.2	+1.1	......
1898,	2	54.3	+2.1	+3.2
RAILWAY SUPPLIES.				
1896,	1	47.7	......	......
1897,	1	32.8	—14.9	......
1898,	1	15.4	—17.4	—32.3
IRON VESSELS AND ENGINES.				
1896,	4	39.6	......	......
1897,	4	44.3	+4.7	......
1898,	4	45.2	+.9	+5.6

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	39.0	......	......
1897,	21	45.4	+6.4	......
1898,	21	47.8	+2.4	+8.8
MACHINERY.				
1896,	21	32.4	......	......
1897,	21	31.2	—1.2	......
1898,	21	31.2	......	—1.2
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	33.1	......	......
1897,	25	35.4	+2.3	......
1898,	25	35.4	......	+2.3
FILES, ETC.				
1896,	2	29.7	......	......
1897,	2	28.0	—1.7	......
1898,	2	20.7	—7.3	—9.0
SAWS.				
1896,	3	42.0	......	......
1897,	3	37.5	—4.5	......
1898,	3	36.8	—.7	—5.2
PLUMBER SUPPLIES.				
1896,	3	......	......	......
1897,	3	......	......	......
1898,	3	......	......	......

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	36.6	......	......
1897,	4	39.4	+2.8	......
1898,	4	34.3	—5.1	—2.3
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	38.6	......	......
1897,	8	34.4	—4.2	......
1898,	8	29.7	—4.7	—8.9
SAFES AND VAULT DOORS.				
1896,	2	43.7	......	......
1897,	2	40.1	—3.6	......
1898,	2	43.1	+3.0	—.6
IRON BEDS.				
1896,	2	42.7	......	......
1897,	2	45.0	+2.3	......
1898,	2	34.1	—10.9	—8.6
ORNAMENTAL METAL WORK.				
1896,	2	40.2	......	......
1897,	2	42.4	+2.2	......
1898,	2	46.9	+4.5	+6.7
METAL AND METALLIC GOODS.				
1896,	3	29.1	......	......
1897,	3	27.2	—1.9	......
1898,	3	28.0	+.8	—1.1

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	12.8	......	......
1897,	1	14.4	+1.6	......
1898,	1	14.8	+.4	+2.0
STRUCTURAL IRON WORK.				
1896,	1	48.5	......	......
1897,	1	60.9	+12.4	......
1898,	1	63.6	+2.7	+15.1
IRON CHAINS.				
1896,	5	38.4	......	......
1897,	5	37.6	—.8	......
1898,	5	40.5	+2.9	+2.1
IRON FENCES AND RAILING.				
1896,	7	40.1	......	......
1897,	7	40.3	+.2	......
1898,	7	43.8	+3.5	+3.7
AGRICULTURAL IMPLEMENTS.				
1896,	13	44.9	......	......
1897,	13	41.7	—3.2	......
1898,	13	41.0	—.7	—3.9
STEAM PUMPS.				
1896,	2	43.9	......	......
1897,	2	51.1	+7.2	......
1898,	2	39.5	—11.6	—4.4

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	54.8	......	......
1897,	4	70.4	+15.6	......
1898,	4	64.7	—5.7	+9.9
PIANOS AND ORGANS.				
1896,	4	33.8	......	......
1897,	4	38.1	+4.3	......
1898,	4	52.9	+14.8	+19.1
TINWARE.				
1896,	5	45.8	......	......
1897,	5	46.3	+.5	......
1898,	5	46.3	......	+.5
PAPER MANUFACTORIES.				
1896,	10	47.8	......	......
1897,	10	44.7	—3.1	......
1898,	10	45.1	+.4	—2.7
WALL PAPER.				
1896,	5	52.3	......	......
1897,	5	51.6	—.7	......
1898,	5	51.9	+.3	—.4
CIGARS.				
1896,	50	37.4	......	......
1897,	50	39.3	+1.9	......
1898,	50	40.3	+1.0	+2.9

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	37.3	......	......
1897,	3	38.2	+.9	......
1898,	3	36.3	—1.9	—1.0
CORDAGE, ROPE AND TWINE.				
1896,	6	70.3	......	......
1897,	6	73.8	+3.5	......
1898,	6	71.2	—2.6	+.9
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	46.6	......	......
1897,	27	47.2	+.6	......
1898,	27	45.8	—1.4	—.8
POTTERY.				
1896,	3	28.9	......	......
1897,	3	29.8	+.9	......
1898,	3	26.4	—3.4	—2.5
PAVING BRICK.				
1896,	9	10.6	......	......
1897,	9	8.7	—1.9	......
1898,	9	6.1	—2.6	—4.5
BUILDING BRICK.				
1896,	41	10.7	......	......
1897,	41	11.3	+.6	......
1898,	41	11.6	+.3	+.9

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	25.8	......	......
1897,	18	24.4	—1.4	......
1898,	18	21.8	—2.6	—4.0
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	7.6	......	......
1897,	7	7.3	—.3	......
1898,	7	6.5	—.8	—1.1
SCHOOL SLATES.				
1896,	3	54.8	......	......
1897,	3	53.2	—1.6	......
1898,	3	59.7	+6.5	+4.9
SLATE ROOFING, ETC., SQUARES.				
1896,	17	9.7	......	......
1897,	17	9.3	—.4	......
1898,	17	9.2	—.1	—.5
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	25.7	......	......
1897,	30	24.7	—1.0	......
1898,	30	20.9	—3.8	—4.8
GLAZED AND CHROME KID.				
1896,	7	70.0	......	......
1897,	7	66.8	—3.2	......
1898,	7	63.8	—3.0	—6.2

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	57.1	......	......
1897,	18	58.9	+1.8	......
1898,	18	57.7	—1.2	+.6
SUSPENDERS.				
1896,	2	63.0	......	......
1897,	2	66.9	+3.9	......
1898,	2	62.6	—4.3	—.4
HATS AND CAPS.				
1896,	3	54.1	......	......
1897,	3	52.9	—1.2	......
1898,	3	51.2	—1.7	—2.9
FUR AND FELT HATS.				
1896,	5	30.6	......	......
1897,	5	30.6	......	......
1898,	5	28.6	—2.0	—2.0
WOOL HATS.				
1896,	8	51.8	......	......
1897,	8	52.9	+1.1	......
1898,	8	49.9	—3.0	—1.9
UMBRELLAS AND PARASOLS.				
1896,	6	59.8	......	......
1897,	6	60.2	+.4	......
1898,	6	64.3	+4.1	+4.5

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	44.0	......	......
1897,	8	46.6	+2.6	......
1898,	8	51.3	+4.7	+7.3
SHIRTS AND SHIRT WAISTS.				
1896,	11	46.4	......	.....
1897,	11	49.6	+3.2	......
1898,	11	47.0	—2.6	+.6
NECK WEAR.				
1896,	5	56.2	......	......
1897,	5	55.9	—.3	......
1898,	5	56.5	+.6	+.3
COTTON AND WOOLEN CLOTHS.				
1896,	26	53.5	......	......
1897,	26	59.0	+5.5	......
1898,	26	58.1	—.9	+4.6
CARPETS.				
1896,	20	58.6	......	......
1897,	20	61.2	+2.6	......
1898,	20	59.4	—1.8	+.8
CLOTHING.				
1896,	9	54.5	......	......
1897,	9	42.1	—12.4	......
1898,	9	52.9	+10.8	—1.6

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	52.9	......	......
1897,	20	50.9	—2.0	......
1898,	20	48.2	—2.7	—4.7
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	50.7	......	......
1897,	13	53.4	+2.7	......
1898,	13	55.1	+1.7	+4.4
WOOLEN AND WORSTED FABRICS.				
1896,	17	53.4	......	......
1897,	17	56.0	+2.6	......
1898,	17	57.0	+1.0	+3.6
WOOLEN AND WORSTED YARNS.				
1896,	13	65.8	......	......
1897,	13	66.4	+.6	......
1898,	13	54.2	—12.2	—11.6
RUGS, YARNS, ETC.				
1896,	6	49.4	......	......
1897,	6	49.4	......	......
1898,	6	46.7	—2.7	—2.7
CARPET YARNS.				
1896,	12	68.6	......	......
1897,	12	72.5	+3.9	......
1898,	12	68.0	—4.5	—.6

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	66.8	......	......
1897,	8	65.4	—1.4	......
1898,	8	60.5	—4.9	—6.3
WORSTED YARNS.				
1896,	9	59.1	......	......
1897,	9	59.8	+.7	......
1898,	9	59.9	+.1	+.8
COTTON AND WOOLEN YARNS.				
1896,	5	58.6	......	......
1897,	5	53.4	—5.2	......
1898,	5	49.5	—3.9	—9.1
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	48.4	......	......
1897,	5	52.3	+3.9	......
1898,	5	53.8	+1.5	+5.4
LACE GOODS.				
1896,	3	20.9	......	......
1897,	3	23.2	+2.3	......
1898,	3	23.8	+.6	+2.9
CHENILLE GOODS.				
1896,	4	57.2	......	......
1897,	4	56.4	—.8	......
1898,	4	58.9	+2.5	+1.7

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	52.9	......	......
1897,	20	50.9	—2.0	......
1898,	20	48.2	—2.7	—4.7
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	50.7	......	......
1897,	13	53.4	+2.7	......
1898,	13	55.1	+1.7	+4.4
WOOLEN AND WORSTED FABRICS.				
1896,	17	53.4	......	......
1897,	17	56.0	+2.6	......
1898,	17	57.0	+1.0	+3.6
WOOLEN AND WORSTED YARNS.				
1896,	13	65.8	......	......
1897,	13	66.4	+.6	......
1898,	13	54.2	—12.2	—11.6
RUGS, YARNS, ETC.				
1896,	6	49.4	......	......
1897,	6	49.4	......	......
1898,	6	46.7	—2.7	—2.7
CARPET YARNS.				
1896,	12	68.6	......	......
1897,	12	72.5	+3.9	......
1898,	12	68.0	—4.5	—.6

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	66.8	......	......
1897,	8	65.4	—1.4	......
1898,	8	60.5	—4.9	—6.3
WORSTED YARNS.				
1896,	9	59.1	......	......
1897,	9	59.8	+.7	......
1898,	9	59.9	+.1	+.8
COTTON AND WOOLEN YARNS.				
1896,	5	58.6	......	......
1897,	5	53.4	—5.2	......
1898,	5	49.5	—3.9	—9.1
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	48.4	......	......
1897,	5	52.3	+3.9	......
1898,	5	53.8	+1.5	+5.4
LACE GOODS.				
1896,	3	20.9	......	......
1897,	3	23.2	+2.3	......
1898,	3	23.8	+.6	+2.9
CHENILLE GOODS.				
1896,	4	57.2	......	......
1897,	4	56.4	—.8	......
1898,	4	58.9	+2.5	+1.7

COST OF BASIC MATERIAL TO VALUE OF PRODUCTION—Continued.

COMPARISON OF BASIC MATERIAL TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. basic material to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	53.4	......	......
1897,	10	52.3	—1.1	......
1898,	10	52.4	+.1	—1.0
KNIT GOODS, UNDERWEAR.				
1896,	16	59.2	......	......
1897,	16	58.2	—1.0	......
1898,	16	58.8	+.6	—.4
HOSIERY.				
1896,	34	43.1	......	......
1897,	34	46.5	+3.4	......
1898,	34	47.1	+.6	+4.0
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	67.0	......	......
1897,	7	68.4	+1.4	......
1898,	7	67.2	—1.2	+.2
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	27.8	......	......
1897,	3	42.5	+14.7	......
1898,	3	41.5	—1.0	+13.7
SILKS—RIBBONS.				
1896,	4	43.9	......	......
1897,	4	51.4	+7.5	......
1898,	4	48.2	—3.2	+4.3

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the relative per cent. of wages to value of production by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
1896, ...	7	30.9	......	......
1897, ...	7	34.4	+3.5	......
1898, ...	7	29.5	—4.9	—1.4
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896, ...	5	8.7	......	......
1897, ...	5	8.6	—.1	......
1898, ...	5	8.5	—.1	—.2
TOOL STEEL.				
1896, ...	2	21.9	......	......
1897, ...	2	29.6	+7.7	......
1898, ...	2	35.9	+6.3	+14.0
IRON AND STEEL SPECIALTIES.				
1896, ...	3	21.3	......	......
1897, ...	3	23.0	+1.7	......
1898, ...	3	18.7	—4.3	—2.6
IRON AND STEEL FORGINGS.				
1896, ...	7	33.2	......	......
1897, ...	7	38.3	+5.1	......
1898, ...	7	38.0	—.3	+4.8

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.				
1896,	2	22.8	......	......
1897,	2	19.1	—3.7	......
1898,	2	23.9	+4.8	+1.1
MALLEABLE IRON.				
1896,	4	36.7	......	......
1897,	4	39.8	+3.1	......
1898,	4	33.9	—5.9	—2.8
BOLTS, NUTS, ETC.				
1896,	8	28.5	......	......
1897,	8	25.2	—3.3	......
1898,	8	24.5	—.7	—4.0
SPIKES AND RIVETS.				
1896,	2	11.4	......	......
1897,	2	11.4	......	......
1898,	2	10.4	—1.0	—1.0
WIRE NAILS.				
1896,	2	18.5	......	......
1897,	2	17.1	—1.4	......
1898,	2	18.4	+1.3	—.1
TACKS AND SMALL NAILS.				
1896,	4	29.5	......	......
1897,	4	29.6	+.1	......
1898,	4	26.0	—3.6	—3.5

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WIRE.				
1896,	6	21.2	......	......
1897,	6	20.2	—1.0	......
1898,	6	22.0	+1.8	+.8
WIRE ROPE.				
1896,	2	11.4	......	......
1897,	2	12.5	+1.1	......
1898,	2	13.6	+1.1	+2.2
WIRE GOODS.				
1896,	4	30.9	......	......
1897,	4	27.5	—3.4	......
1898,	4	18.9	—8.6	—12.0
WAGON AND CARRIAGE AXLES.				
1896,	4	31.0	......	......
1897,	4	32.2	+1.2	......
1898,	4	32.5	+.3	+1.5
CARRIAGE AND WAGON SPRINGS.				
1896,	2	34.0	......	......
1897,	2	33.1	—.9	......
1898,	2	32.2	—.9	—1.8
SCALES, ETC.				
1896,	5	28.7	......	......
1897,	5	28.3	—.4	......
1898,	5	29.6	+1.3	+.9

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
STOVES, HEATERS, RANGES, ETC.				
1896,	39	39.6	......	......
1897,	39	39.5	—.1	......
1898,	39	41.5	+2.0	+1.9
BATH BOILERS, TANKS, ETC.				
1896,	2	19.8	......	......
1897,	2	19.6	—.2	......
1898,	2	21.9	+2.3	+2.1
HARDWARE SPECIALTIES.				
1896,	14	42.2	......	......
1897,	14	39.2	—3.0	......
1898,	14	39.9	+.7	—2.3
EDGE TOOLS.				
1896,	12	32.9	......	......
1897,	12	39.0	+6.1	......
1898,	12	37.6	—1.4	+4.7
WRENCHES, PICKS, ETC.				
1896,	5	29.3	......	......
1897,	5	26.6	—2.7	......
1898,	5	28.1	+1.5	—1.2
LOCOMOTIVES AND CARS BUILT AND REPAIRED.				
1896,	3	43.4	......	......
1897,	3	46.2	+2.8	......
1898,	3	42.6	—3.6	—.8

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
CAR SPRINGS.				
1896,	3	14.4	......	......
1897,	3	14.8	+.4	......
1898,	3	13.6	—1.2	—.8
CAR WHEELS AND CAR AXLES.				
1896,	2	21.7	......	......
1897,	2	22.2	+.5	......
1898,	2	28.2	+6.0	+6.5
FREIGHT AND STREET CARS, ETC.				
1896,	4	18.9	......	......
1897,	4	28.7	+9.8	......
1898,	4	23.6	—5.1	+4.7
WROUGHT IRON PIPE AND TUBES.				
1896,	5	18.2	......	......
1897,	5	18.0	—.2	......
1898,	5	16.9	—1.1	—1.3
CAST IRON PIPE.				
1896,	3	24.3	......	......
1897,	3	21.2	—3.1	......
1898,	3	20.1	—1.1	—4.2
BRASS, COPPER AND BRONZE GOODS.				
1896,	22	24.1	......	......
1897,	22	25.9	+1.8	......
1898,	22	24.6	—1.3	+.5

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON AND STEEL BRIDGES.				
1896,	8	17.2	......	......
1897,	8	18.1	+.9	......
1898,	8	17.4	—.7	+.2
LOCOMOTIVES, STATIONARY ENGINES, ETC.				
1896,	9	35.6	......	......
1897,	9	35.6	......	......
1898,	9	35.5	—.1	—.1
ENGINES, BOILERS, ETC.				
1896,	10	31.6	......	......
1897,	10	31.6	......	......
1898,	10	32.3	+.7	+.7
RAILWAY SWITCHES, ETC.				
1896,	2	27.4	......	......
1897,	2	27.1	—.3	......
1898,	2	31.4	+4.3	+4.0
RAILWAY SUPPLIES.				
1896,	1	19.9	......	......
1897,	1	18.0	—1.9	......
1898,	1	12.9	—5.1	—7.0
IRON VESSELS AND ENGINES.				
1896,	4	45.5	......	......
1897,	4	40.9	—4.6	......
1898.	4	43.4	+2.5	—2.1

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase(+) or decrease (—) as compared with the preceding year	Increase (+) or decrease(—) 1898 as compared with 1896.
BOILERS, TANKS, STACKS, ETC.				
1896,	21	27.8	......	......
1897,	21	28.1	+.3	......
1898,	21	26.1	—2.0	—1.7
MACHINERY.				
1896,	21	36.2	......	......
1897,	21	36.1	—.1	......
1898,	21	37.0	+.9	+.8
FOUNDRIES AND MACHINE SHOPS.				
1896,	25	36.2	......	......
1897,	25	33.6	—2.6	......
1898,	25	33.2	—.4	—3.0
FILES, ETC.				
1896,	2	33.9	......	......
1897,	2	33.6	—.3	......
1898,	2	29.4	—4.2	—4.5
SAWS.				
1896,	3	29.2	......	......
1897,	3	30.2	+1.0	......
1898,	3	30.0	—.2	+.8
PLUMBER SUPPLIES.				
1896,	3	38.9	......	......
1897,	3	39.2	+.3	......
1898,	3	39.5	+.3	+.6

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
ELECTRICAL SUPPLIES.				
1896,	4	34.9	......	......
1897,	4	34.2	—.7	......
1898,	4	28.3	—5.9	—6.6
SHOVELS, SPADES, SCOOPS, ETC.				
1896,	8	26.8	......	......
1897,	8	25.2	—1.6	......
1898,	8	23.7	—1.5	—3.1
SAFES AND VAULT DOORS.				
1896,	2	36.0	......	......
1897,	2	38.0	+2.0	......
1898,	2	39.9	+1.9	+3.9
IRON BEDS.				
1896,	2	28.5	......	......
1897,	2	31.1	+2.6	......
1898,	2	28.2	—2.9	—.3
ORNAMENTAL METAL WORK.				
1896,	2	40.1	......	......
1897,	2	37.8	—2.3	......
1898,	2	43.7	+5.9	+3.6
METAL AND METALLIC GOODS.				
1896,	3	36.3	......	......
1897,	3	35.7	—.6	......
1898,	3	35.7	......	—.6

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BUILDING IRON WORK.				
1896,	1	41.4	......	......
1897,	1	45.8	+4.4	......
1898,	1	49.1	+3.3	+7.7
STRUCTURAL IRON WORK.				
1896,	1	30.5	......	......
1897,	1	25.3	—5.2	......
1898,	1	19.5	—5.8	—11.0
IRON CHAINS.				
1896,	5	27.7	......	......
1897,	5	28.8	+1.1	......
1898,	5	29.4	+.6	+1.7
IRON FENCES AND RAILING.				
1896,	7	31.4	......	......
1897,	7	33.6	+2.2	......
1898,	7	30.6	—3.0	—.8
AGRICULTURAL IMPLEMENTS.				
1896,	13	26.5	......	......
1897,	13	24.7	—1.8	......
1898,	13	25.4	+.7	—1.1
STEAM PUMPS.				
1896,	2	36.3	......	......
1897,	2	41.3	+5.0	......
1898,	2	35.7	—5.6	—.6

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
BICYCLES.				
1896,	4	19.2	......	......
1897,	4	24.4	+5.2	......
1898,	4	22.7	—1.7	+3.5
PIANOS AND ORGANS.				
1896,	4	33.7	......	......
1897,	4	31.6	—2.1	......
1898,	4	35.8	+4.2	+2.1
TINWARE.				
1896,	5	22.5	......	......
1897,	5	22.9	+.4	......
1898,	5	22.0	—.9	—.5
PAPER MANUFACTORIES.				
1896,	10	17.0	......	......
1897,	10	17.6	+.6	......
1898,	10	17.7	+.1	+.7
WALL PAPER.				
1896,	5	14.9	......	......
1897,	5	13.7	—1.2	......
1898,	5	12.9	—.8	—2.0
CIGARS.				
1896,	50	25.4	......	......
1897,	50	25.1	—.3	......
1898,	50	25.3	+.2	+.1

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
BOOK BINDING.				
1896,	3	38.7	......	......
1897,	3	40.9	+2.2	......
1898,	3	41.7	+.8	+3.0
CORDAGE, ROPE AND TWINE.				
1896,	6	12.9	......	......
1897,	6	14.5	+1.6	......
1898,	6	13.7	—.8	+.8
PAPER, PAPER BOXES, ENVELOPES, ETC.				
1896,	27	24.1	......	......
1897,	27	24.9	+.8	......
1898,	27	24.9	......	+.8
POTTERY.				
1896,	3	39.5	......	......
1897,	3	39.8	+.3	......
1898,	3	36.9	—2.9	—2.6
PAVING BRICK.				
1896,	9	42.9	......	......
1897,	9	41.5	—1.4	......
1898,	9	42.3	+.8	—.6
BUILDING BRICK.				
1896,	41	42.6	......	......
1897,	41	43.1	+.5	......
1898,	41	43.8	+.7	+1.2

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
FIRE BRICK.				
1896,	18	44.3	......	......
1897,	18	45.8	+1.5	......
1898,	18	44.0	—1.8	—.3
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	66.2	......	......
1897,	7	53.6	—12.6	......
1898,	7	47.9	—5.7	—18.3
SCHOOL SLATES.				
1896,	3	24.5	......	......
1897,	3	20.3	—4.2	......
1898,	3	21.7	+1.4	—2.8
SLATE ROOFING, ETC., SQUARES.				
1896,	17	65.0	......	......
1897,	17	60.4	—4.6	......
1898,	17	62.5	+2.1	—2.5
WINDOW GLASS, BOTTLES AND TABLE GOODS.				
1896,	30	45.5	......	......
1897,	30	44.6	—.9	......
1898,	30	44.2	—.4	—1.3
GLAZED AND CHROME KID.				
1896,	7	11.9	......	......
1897,	7	12.7	+.8	......
1898,	7	11.6	—1.1	—.3

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
1896,	18	22.9	......	......
1897,	18	23.4	+.5	......
1898,	18	23.1	—.3	+.2
SUSPENDERS.				
1896,	2	9.7	......	......
1897,	2	9.7	......	......
1898,	2	10.5	+.8	+.8
HATS AND CAPS.				
1896,	3	23.1	......	......
1897,	3	22.9	—.2	......
1898,	3	23.9	+1.0	+.8
FUR AND FELT HATS.				
1896,	5	26.6	......	......
1897,	5	33.0	+6.4	......
1898,	5	34.4	+1.4	+7.8
WOOL HATS.				
1896,	8	24.4	......	......
1897,	8	22.2	—2.2	......
1898,	8	23.4	+1.2	—1.0
UMBRELLAS AND PARASOLS.				
1896,	6	12.3	......	......
1897,	6	13.9	+1.6	......
1898,	6	11.7	—2.2	—.6

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
DRESS TRIMMINGS, BRAIDS, ETC.				
1896,	8	24.5	......	......
1897,	8	25.8	+1.3	......
1898,	8	24.2	—1.6	—.3
SHIRTS AND SHIRT WAISTS.				
1896,	11	25.2	......	......
1897,	11	25.5	+.3	......
1898,	11	24.8	—.7	—.4
NECK WEAR.				
1896,	5	19.7	......	......
1897,	5	18.5	—1.2	......
1898,	5	18.8	+.3	—.9
COTTON AND WOOLEN CLOTHS.				
1896,	26	25.9	......	......
1897,	26	25.6	—.3	......
1898,	26	25.3	—.3	—.6
CARPETS.				
1896,	20	21.8	......	......
1897,	20	21.7	—.1	......
1898,	20	21.0	—.7	—.8
CLOTHING.				
1896,	9	21.3	......	......
1897,	9	20.7	—.6	......
1898,	9	20.9	+.2	—.4

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON GOODS.				
1896,	20	29.3	......	......
1897,	20	30.2	+.9	......
1898,	20	30.9	+.7	+1.6
WOOLEN AND WORSTED CASSIMERES.				
1896,	13	21.6	......	......
1897,	13	20.2	—1.4	......
1898,	13	20.7	+.5	—.9
WOOLEN AND WORSTED FABRICS.				
1896,	17	20.3	......	......
1897,	17	19.8	—.5	......
1898,	17	19.9	+.1	—.4
WOOLEN AND WORSTED YARNS.				
1896,	13	16.2	......	......
1897,	13	14.9	—1.3	......
1898,	13	11.6	—3.3	—4.6
RUGS, YARNS, ETC.				
1896,	6	24.8	......	......
1897,	6	24.4	—.4	......
1898,	6	25.2	+.8	+.4
CARPET YARNS.				
1896,	12	15.6	......	......
1897,	12	13.4	—2.2	......
1898,	12	14.0	+.6	—1.6

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
COTTON YARNS.				
1896,	8	16.7	......	......
1897,	8	18.1	+1.4	......
1898,	8	19.4	+1.3	+2.7
WORSTED YARNS.				
1896,	9	16.6	......	......
1897,	9	14.2	—2.4	......
1898,	9	15.6	+1.4	—1.0
COTTON AND WOOLEN YARNS.				
1896,	5	22.7	......	......
1897,	5	22.1	—.6	......
1898,	5	23.0	+.9	+.3
WOOLEN BLANKETS, FLANNELS, ETC.				
1896,	5	20.0	......	......
1897,	5	21.6	+1.6	......
1898,	5	16.6	—5.0	—3.4
LACE GOODS.				
1896,	3	21.3	......	......
1897,	3	20.6	—.7	......
1898,	3	22.1	+1.5	+.8
CHENILLE GOODS.				
1896,	4	27.6	......	......
1897,	4	29.5	+1.9	......
1898,	4	28.9	—.6	+1.3

RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—Continued.

COMPARISON OF RELATIVE PER CENT. OF WAGES TO VALUE OF PRODUCTION—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Relative per cent. wages to value of production.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UPHOLSTERY GOODS.				
1896,	10	25.2	......	......
1897,	10	26.7	+1.5	......
1898;	10	27.3	+.6	+2.1
KNIT GOODS, UNDERWEAR.				
1896,	16	20.5	......	......
1897,	16	20.0	—.5	......
1898,	16	19.3	—.7	+1.2
HOSIERY.				
1896,	34	30.4	......	......
1897,	34	30.7	+.3	......
1898,	34	30.7	......	+.3
SILK—BROAD GOODS, THROWN SILK, YARNS, ETC.				
1896,	7	17.3	......	......
1897,	7	16.9	—.4	......
1898,	7	16.7	—.2	—.6
SILK—BROAD GOODS AND RIBBONS.				
1896,	3	12.9	......	......
1897,	3	20.4	+7.5	......
1898,	3	18.1	—2.3	+5.2
SILKS—RIBBONS.				
1896,	4	17.8	......	......
1897,	4	20.9	+3.1	......
1898,	4	20.0	—.9	+2.2

PRODUCTION IN TONS OR QUANTITY.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

NOTE.—In this table the aggregate production, in tons, or quantity, by the same establishments for the years 1896, 1897 and 1898 is presented, with the relative increase or decrease, together with the increase or decrease 1898 over 1896. One hundred and one industries, representing 901 establishments, are considered.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
STEEL CASTINGS.				
		Tons.		
1896,	7	17,362	....	....
1897,	7	18,313	+951	....
1898,	7	27,786	+9,473	+10,424
STEEL BILLETS, SLABS, BLOOMS, ETC.				
1896,	5	430,673	....	....
1897,	5	675,187	+244,514	....
1898,	5	722,975	+47,788	+292,302
TOOL STEEL.				
1896,	2	991	....	....
1897,	2	528	—463	....
1898,	2	905	+377	—86
IRON AND STEEL SPECIALTIES.				
1896,	3	1,095	....	....
1897,	3	1,115	+20	....
1898,	3	824	—291	—271
IRON AND STEEL FORGINGS.				
1896,	7	4,110	....	....
1897,	7	3,553	—557	....
1898,	7	6,866	+3,313	+2,756

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
IRON SPECIALTIES.		Tons.		
1896,	2	1,209	....	....
1897,	2	2,510	+1,301	....
1898,	2	1,061	—1,449	—148
MALLEABLE IRON.				
1896,	4	30,888	....	....
1897,	4	27,466	—3,422	....
1898,	4	38,228	+10,762	+7,340
SPIKES AND RIVETS.				
1896,	2	7,126	....	....
1897,	2	4,416	—2,710	....
1898,	2	6,544	+2,128	—582
WIRE NAILS.				
1896,	3	16,744	....	....
1897,	3	39,781	+23,037	....
1898,	3	27,114	—12,667	+10,370
TACKS AND SMALL NAILS.				
1896,	4	1,357	....	....
1897,	4	1,474	+117	....
1898,	4	1,243	—231	—114
WIRE.				
1896,	6	3,683	....	....
1897,	6	4,048	+365	....
1898,	6	4,434	+386	+751

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
WIRE ROPE.				
		Tons.		
1896,	2	3,406	....	....
1897,	2	3,420	+14	....
1898,	2	3,749	+329	+343
CARRIAGE AND WAGON SPRINGS.				
1986,	2	597	....	....
1897,	2	563	—34	....
1898,	2	594	+31	—3
CAR SPRINGS.				
1896,	3	13,266	....	....
1897,	3	12,543	—723	....
1898,	3	22,162	+9,619	+8,896
WROUGHT IRON PIPE AND TUBES.				
1896,	5	281,068	....	....
1897,	5	297,601	+16,533	....
1898,	5	358,304	+60,703	+77,236
CAST IRON PIPE.				
1896,	3	50,730	....	....
1897,	3	72,030	+21,300	....
1898,	3	79,212	+7,182	+28,482
IRON AND STEEL BRIDGES.				
1896,	8	58,396	....	....
1897,	8	54,013	—4,383	....
1898,	8	73,781	+19,768	+15,385

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
RAILWAY SUPPLIES.				
		Tons.		
1896,	1	12,210	....	....
1897,	1	15,225	+3,015	....
1898,	1	55,000	+39,775	+42,790
BUILDING IRON WORK.				
1896,	1	3,000	....	....
1897,	1	2,200	—800	....
1898,	1	3,000	+800	....
IRON CHAINS.				
1896,	5	4,877	....	....
1897,	5	4,898	+21	....
1898,	5	6,307	+1,409	+1,430
PAPER MANUFACTORIES.				
1896,	10	66,053	....	....
1897,	10	61,895	—4,158	....
1898,	10	56,305	—5,590	—9,748
WALL PAPER.				
		Rolls.		
1896,	5	24,002,000	....	....
1897,	5	29,248,793	+5,246,793	....
1898,	5	34,867,977	+5,619,184	+10,865,977
CIGARS.				
		Cigars.		
1896,	50	339,411,391	....	....
1897,	50	377,548,536	+38,137,145	....
1898,	50	395,562,778	+18,014,242	+56,151,387

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
PAVING BRICK.				
		Bricks.		
1896,	9	40,969,988	....	....
1897,	9	46,102,186	+5,132,198	....
1898,	9	49,462,959	+3,360,773	+8,492,971
BUILDING BRICK.				
1896,	41	256,041,072	....	....
1897,	41	224,143,398	—31,897,674	....
1898,	41	242,828,022	+18,684,624	—13,213,050
FIRE BRICK.				
		Tons.		
1896,	18	329,925	....	....
1897,	18	330,914	+989	....
1898,	18	408,796	+77,882	+78,871
SLATE ROOFING, ETC., TONNAGE.				
1896,	7	36,977	....	....
1897,	7	45,860	+8,883	....
1898,	7	39,745	—6,115	+2,768
SCHOOL SLATES.				
		Cases.		
1896,	3	34,725	....	....
1897,	3	39,629	+4,904	....
1898,	3	33,047	—6,582	—1,678
SLATE ROOFING, ETC., SQUARES.				
		Squares.		
1896,	17	209,147	....	....
1987,	17	249,261	+40,114	....
1898,	17	296,593	+47,332	+87,446

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase(+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease(—) 1898 as compared with 1896.
GLAZED AND CHROME KID.				
		Dozens.		
1896,	7	887,242	....	....
1897,	7	1,139,807	+252,565	....
1898,	7	1,332,785	+192,978	+445,543
MEN'S, WOMEN'S, MISSES' AND CHILDREN'S SHOES.				
		Pairs.		
1896,	18	4,136,243	....	....
1897,	18	4,610,460	+474,217	....
1898,	18	4,705,019	+94,559	+568,776
SUSPENDERS.				
		Dozens.		
1896,	2	142,000	....	....
1897,	2	152,000	+10,000	....
1898,	2	165,000	+13,000	+23,000
HATS AND CAPS.				
1896,	3	65,867	....	....
1897,	3	103,934	+38,067	....
1898,	3	100,663	—3,271	+34,796
FUR AND FELT HATS.				
1896,	5	47,026	....	....
1897,	5	51,025	+3,999	....
1898,	5	55,925	+4,900	+8,899
WOOL HATS.				
1896,	8	187,988	....	....
1897,	8	211,456	+23,468	....
1898,	8	214,385	+2,929	+26,397

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
UMBRELLAS AND PARASOLS.				
		Pieces.		
1896,	6	1,034,234	....	....
1897,	6	1,095,602	+61,368	....
1898,	6	1,040,256	—55,346	+6,022
SHIRTS AND SHIRT WAISTS.				
		Dozens.		
1896,	11	232,371	....	....
1897,	11	204,576	—27,795	....
1898,	11	350,053	+145,477	+117,682
CARPETS.				
		Yards.		
1896,	20	10,752,952	....	....
1897,	20	13,612,975	+2,860,023	....
1898,	20	12,904,587	—708,388	+2,151,635
WOOLEN AND WORSTED YARNS.				
		Pounds.		
1896,	13	11,958,353	....	....
1897,	13	14,075,749	+2,117,396	....
1898,	13	10,089,876	—3,985,873	—1,868,477
CARPET YARNS.				
1896,	12	11,668,000	....	....
1897,	12	14,722,000	+3,054,000	....
1898,	12	12,171,606	—2,550,394	+503,606
COTTON YARNS.				
1896,	8	7,953,685	....	....
1897,	8	8,552,212	+598,527	....
1898,	8	9,548,201	+995,989	+1,594,516

PRODUCT IN TONS OR QUANTITY—Continued.

COMPARISON OF AGGREGATE TOTAL PRODUCTION, IN TONS, OR GIVEN QUANTITY—SAME ESTABLISHMENTS, FOR THE YEARS 1896, 1897 AND 1898.

Character of Industry and Years.	Number of establishments considered.	Total production in tons, or given quantity.	Increase (+) or decrease (—) as compared with the preceding year.	Increase (+) or decrease (—) 1898 as compared with 1896.
WORSTED YARNS.				
		Pounds.		
1896,	9	3,199,520	....	....
1897,	9	4,558,425	+1,358,905	....
1898,	9	3,635,654	—922,771	+436,134
COTTON AND WOOLEN YARNS.				
1896,	5	4,088,190	....	....
1897,	5	4,415,906	+327,716	....
1898,	5	4,301,128	—114,778	+212,938
HOSIERY.				
		Dozens.		
1896,	34	4,824,049	....	....
1897,	34	5,732,823	+908,774	....
1898,	34	5,530,204	—202,619	+706,155
SILK—BROAD GOODS AND RIBBONS.				
		Yards.		
1896,	3	2,626,571	....	....
1897,	3	3,910,794	+1,284,223	....
1898,	3	4,235,463	+324,669	+1,608,892
SILKS—RIBBONS.				
1896,	4	10,319,945	....	....
1897,	4	9,934,072	—385,873	....
1898,	4	13,346,776	+3,412,704	+3,026,831

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Steel castings,	7	$5,744,982	$418,609	290	1,016
Steel billets, slabs, blooms, etc.,	5	13,142,676	5,734,106	204	1,404
Tool steel,	2	430,000	143,347	267	150
Iron and steel specialties,	3	138,950	41,161	297	139
Iron and steel forgings,	7	431.000	141,286	256	254
Iron specialties,	2	35,000	47,113	301	37
Malleable iron,	4	440,000	590,306	292	1.575
Bolts, nuts, etc.,	8	1,885,950	600,739	235	942
Spikes and rivets,	2	125,000	109,498	279	46
Wire nails,	2	905,000	417,134	236	459
Tacks and small nails,	4	163,500	48,253	226	118
Wire,	6	515,100	147,605	289	132
Wire rope,	2	690,000	292,275	302	158
Wire goods,	4	75,950	20,611	230	80
Wagon and carriage axles,	4	469,475	140,166	252	310
Carriage and wagon springs,	2	125,000	30,822	271	43
Scales, etc.,	5	168,500	83,428	278	120
Stoves, heaters, ranges, etc.,	39	5,544,712	862,626	209	3.582
Bath boilers, tanks, etc.,	2	52,820	33,394	309	26
Hardware specialties,	14	3,077,418	687,416	260	2,579
Edge tools,	12	1,675,197	453,478	246	818
Wrenches, picks, etc.,	5	564,000	118,234	240	248
Locomotives and cars built and repaired,	3	1,464,400	3,783,754	273	6,264
Car springs,	3	1,910,000	472,791	281	292
Car wheels and car axles,	2	500,000	167,114	286	211
Freight and street cars, etc.,	4	661,416	426,648	171	588
Wrought iron pipe and tubes,	5	13,555,000	7,973,945	283	5,324
Cast iron pipe,	3	340,000	573,580	303	507
Brass, copper and bronze goods,	22	2,336,192	1,257,155	296	1 414
Iron and steel bridges,	8	961,050	2,008,501	294	1,169
Locomotives, stationary engines, etc.,	9	11,222,730	4,229,510	306	5,587
Engines, boilers, etc.,	10	3,908,988	1,557,093	296	1,922
Railway switches, etc.,	2	2,238,909	815,001	284	838
Railway supplies,	1	1,000,000	389,224	291	311
Iron vessels and engines,	4	7,189,973	2,123,809	306	4 267
Boilers, tanks, stacks, etc.,	21	1,544,562	761,415	286	1,161
Machinery,	21	8,798,406	1,741,304	301	3,721
Foundries and machine shops,	25	3,041,550	875,986	286	2,127
Files, etc.,	2	510,000	96,440	275	331

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$463,012	$1,496,055	$1,472 49	$455 72	$1 57	27.9	30.9	17,362 tons.
625,243	7,166,195	5,104 13	445 33	2 18	80.0	8.7	430,673
84,946	386,601	2,577 74	566 31	2 12	37.1	21.9	991
51,102	239,897	1,725 88	367 64	1 24	17.2	21.3	1,095
121,567	366,163	1,047 89	478 61	1 87	38.6	33.2	4,110
17,700	77,966	2,107 19	478 38	1 59	60.4	22.8	1,209
709,933	1,933,107	1,227 37	450 75	1 54	30.5	36.7	30,888
361,981	1,269,306	1,347 46	384 27	1 64	47.3	28.5	....
19,883	173,749	3,777 15	432 24	1 54	63.0	11.4	7,126
140,100	758,704	1,652 95	305 23	1 29	55.0	18.5	16,744
34,122	115,749	980 92	289 18	1 28	41.7	29.5	1,357
60,328	284,418	2,154 68	457 03	1 58	51.9	21.2	3,683
70,108	615,004	3,892 43	443 72	1 47	47.5	11.4	3,406
20,708	67,040	838 00	258 85	89	30.7	30.9	....
146,138	471,440	1,520 77	471 41	1 87	29.7	31.0	....
24,877	73,042	1,698 65	578 07	2 22	42.2	34.0	537
69,550	242,692	2,022 43	579 58	2 08	34.4	28.7	....
1,663,392	4,205,004	1,190 57	470 95	2 25	20.5	39.6	....
12,091	61,186	2,353 31	465 04	1 60	54.6	19.8	....
1,004,650	2,382,624	940 63	400 42	1 54	26.8	42.2	....
356,401	1,083,068	1,324 04	435 70	1 77	41.9	32.9	....
106,360	363,054	1,463 93	428 91	1 79	32.5	29.3	....
3,035,897	6,983,962	1,116 72	485 43	1 78	54.2	43.4	....
165,614	1,152,141	3,945 69	567 17	2 02	41.0	14.4	13,266
81,060	374,167	1,778 30	384 17	1 34	44.7	21.7	....
126,184	668,495	1,136 90	214 59	1 25	63.8	18.9	....
2,170,688	11,907,420	2,236 56	407 72	1 44	66.9	18.2	281,068
209,338	862,648	1,701 48	412 89	1 37	66.5	24.3	50,730
610,840	2,580,968	1,789 93	431 99	1 46	49.7	24.1	....
590,081	3,429,136	2,933 39	504 77	1 72	58.5	17.2	58,396
3,187,295	8,792,061	1,573 66	561 53	1 84	43.1	35.6	....
1,003,538	3,230,705	1,680 91	522 13	1 77	48.2	31.6	....
436,911	1,594,607	1,902 14	521 37	1 82	51.1	27.4	....
161,847	814,056	2,617 54	520 41	1 79	47.7	19.9	12,210
2,444,173	5,367,475	1,257 90	572 81	1 87	39.6	45.5	....
542,277	1,951,211	1,680 63	467 08	1 63	30.0	27.8	....
1,955,967	5,397,999	1,450 69	525 65	1 75	32.4	36.2	....
957,628	2,643,208	1,242 69	450 22	1 57	33.1	36.2	....
108,896	321,222	970 46	328 99	1 20	29.7	33.9	....

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Saws,	3	$310,000	$37,000	229	56
Plumber supplies,	3	2,105,078	*	281	960
Electrical supplies,	4	12,815,696	1,337,362	289	2,528
Shovels, spades, scoops, etc.,	8	651,100	318,871	210	545
Safes and vault doors,	2	80,000	66,274	307	128
Iron beds,	2	5,400	10,559	215	33
Ornamental metal work,	2	300,000	178,406	302	282
Metal and metallic goods,	3	280,400	47,136	234	194
Building iron work,	1	73,000	20,631	300	132
Structural iron work,	1	750,000	501,953	301	620
Iron chains,	5	253,542	127,022	264	231
Iron fences and railing,	7	40,500	47,937	293	79
Agricultural implements,	13	2,205,000	1,055,157	285	1,415
Steam pumps,	2	280,000	146,725	307	153
Bicycles,	4	300,000	456,736	274	305
Pianos and organs,	4	336,000	109,014	293	200
Tinware,	5	372,700	218,233	301	284
Paper manufactories,	10	4,443,228	1,689,061	262	1,580
Wall paper,	5	460,000	545,913	238	482
Cigars,	50	3,055,477	2,930,050	284	7,163
Book binding,	3	125,000	62,699	301	138
Cordage, rope and twine,	6	3,265,000	3,369,846	288	2,063
Paper, paper boxes, envelopes, etc.,	27	1,491,067	936,025	297	1,826
Pottery,	3	535,000	73,655	283	221
Paving brick,	9	571,200	40,588	246	515
Building brick,	41	4,546,100	192,643	224	2,268
Fire brick,	18	2,240,600	423,138	283	1,868
Slate roofing, etc., tonnage,	7	1,221,451	32,540	234	934
School slates,	3	98,000	68,931	189	197
Slate roofing, etc., squares,	17	746,913	66,817	240	1,416
Window glass, bottles and table goods,	30	15,597,800	2,172,848	238	9,994
Glazed and chrome kid,	7	3,857,983	5,635,016	299	2,725
Men's, women's, misses and children's shoes,	18	2,502,618	3,221,688	280	3,815
Suspenders,	2	82,000	200,936	295	110
Hats and caps,	3	273,592	284,490	284	490
Fur and felt hats,	5	2,773,726	443,621	307	963
Wool hats,	8	418,997	305,381	266	456

*Incomplete returns of value of basic material.

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$25,745	$88,186	$1,574 75	$469 73	$2 01	42.0	29.2	....
418,864	1,078,000	1,122 92	436 32	1 55	....	38.9	....
1,276,087	3,653,461	1,445 20	504 78	1 75	36.6	34.9	....
217,581	813,573	1,492 80	399 23	1 90	38.6	26.8	....
54,556	151,546	1,183 95	426 22	1 39	43.7	36.0	....
7,052	24,716	748 97	213 70	99	42.7	28.5	....
177,921	443,938	1,577 79	630 93	2 09	40.2	40.1	....
58,892	161,989	834 99	303 56	1 29	29.1	36.3	....
66,710	160,988	1,219 61	505 38	1 68	12.8	41.4	3,000 tons.
315,438	1,034,168	1,668 01	508 77	1 69	48.5	30.5	....
91,526	331,059	1,433 15	396 22	1 50	38.4	27.7	4,877 tons.
37,512	119,501	1,512 67	474 84	1 62	40.1	31.4	....
622,390	2,351,507	1,661 84	439 85	1 54	44.9	26.5	....
121,368	334,056	2,183 31	793 26	2 58	43.9	36.3	....
159,578	832,698	2,730 15	523 21	1 91	54.8	19.2	....
106,706	322,647	1,613 24	533 53	1 82	33.8	33.7	....
107,539	477,000	1,679 57	378 66	1 26	45.8	22.5	....
602,332	3,535,998	2,237 97	381 22	1 46	47.8	17.0	66,053 tons.
156,068	1,044,811	2,167 66	323 79	1 36	52.3	14.9	24,002,000 rolls.
1,992,086	7,845,136	1,094 31	277 87	98	37.4	25.4	339,411,391 cigars.
64,957	167,856	1,216 35	470 70	1 56	37.3	38.7	....
621,413	4,793,024	2,323 33	302 10	1 04	70.3	12.9	....
494,654	2,009,846	1,100 68	270 89	91	46.6	24.1	....
100,562	254,732	1,152 63	455 03	1 61	28.9	39.5	....
164,710	384,378	746 36	319 83	1 30	10.6	42.9	40,969,988 bricks.
765,253	1,796,146	791 95	337 41	1 61	10.7	42.6	256,041,072 bricks.
727,162	1,639,926	877 90	389 26	1 37	25.8	44.3	329,925 tons.
284,706	430,376	460 79	304 82	1 30	7.6	66.2	36,977 tons.
30,795	125,804	638 59	156 32	83	54 8	24.5	34,725 cases.
446,365	686,321	481 69	315 23	1 31	9.7	65.0	209,147 squares.
3,840,098	8,439,801	844 49	384 24	1 61	25.7	45.5	....
962,342	8,049,657	2,954 00	353 15	1 18	70.0	11.9	887,242 dozens.
1,292,042	5,638,377	1,477 95	338 67	1 21	57.1	22.9	4,136,243 pairs.
30,936	319,100	2,900 91	281 24	95	63.0	9.7	142,000 dozens.
121,160	525,607	1,285 10	296 23	1 22	54.1	23.1	65,867 dozens.
385,170	1,447,818	1,503 45	399 97	1 30	31.6	26.6	47,026 dozens.
143,829	589,293	1,292 31	315 41	1 19	51.8	24.4	187,988 dozens.

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Umbrellas and parasols, ...	6	$450,435	$815,202	307	688
Dress trimmings, braids, etc., ...	8	1,158,296	536,719	287	1,104
Shirts and shirt waists, ...	11	941,300	1,022,237	284	1,954
Neckwear, ...	5	179,584	281,387	301	266
Cotton and woolen cloths, ...	26	3,393,847	2,980,495	269	4,560
Carpets, ...	20	8,390,625	2,332,148	263	2,486
Clothing, ...	9	1,744,534	1,578,537	281	2,933
Cotton goods, ...	20	3,177,649	1,659,827	258	3,268
Woolen and worsted cassimeres, ..	13	1,559,817	1,146,398	268	1,571
Woolen and worsted fabrics, ...	17	2,994,836	2,093,613	248	2,817
Woolen and worsted yarns, ...	13	3,169,270	1,958,445	251	1,721
Rugs, yarns, etc., ...	6	5,996,783	2,176,255	256	3,428
Carpet yarns, ...	12	998,500	889,240	264	595
Cotton yarns, ...	8	1,300,209	778,744	263	720
Worsted yarns, ...	9	2,015,617	1,838,892	239	1,406
Cotton and woolen yarns, ...	5	883,000	487,965	269	637
Woolen blankets, flannels, etc., ..	5	669,730	620,465	304	717
Lace goods, ...	3	741,000	190,499	274	763
Chenille goods, ...	4	485,000	307,395	277	660
Upholstery goods, ...	10	1,867,322	1,427,820	294	1,938
Knit goods, underwear, ...	16	1,835,000	1,897,765	271	2,505
Hosiery, ...	34	2,192,318	1,724,879	257	5,107
Silk—Broad goods, thrown silk, yarns, etc., ...	7	1,874,700	2,441,078	269	2,434
Silk—Broad goods and ribbons, ...	3	1,675,000	732,000	301	1,376
Silks—Ribbons, ...	4	311,882	309,883	298	431
Totals and averages, ...	901	$211,053,779	$99,456,717	268	133,660

YEAR 1896.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$167,380	$1,362,314	$1,980 11	$243 29	$0 79	59.8	12.3	1,034,234 pieces.
299,043	1,218,500	1,103 71	270 87	94	44.0	24.5	....
555,092	2,204,868	1,128 39	284 08	1 00	46.4	25.2	232,371 dozens.
98,556	501,083	1,883 77	370 51	1 23	56.2	19.7	....
1,446,144	5,571,616	1,221 34	317 14	1 18	53.5	25.9	....
868,200	3,977,283	1,599 87	349 23	1 33	58.6	21.8	10,752,952 yards.
615,563	2,894,340	986 82	209 87	75	54.5	21.3	....
919,761	3,139,012	960 53	231 44	1 09	52.9	29.3	....
488,143	2,262,001	1,439 84	310 72	1 17	50.7	21.6	....
796,935	3,921,846	1,302 21	252 90	1 14	53.4	20.3	....
480,490	2,969,351	1,725 31	279 18	1 11	65.8	16.2	11,958,353 pounds.
1,093,507	4,401,046	1,283 85	318 98	1 25	49.4	24.8	....
201,553	1,295,455	2,177 24	338 74	1 28	68.6	15.6	11,668,000 pounds.
194,570	1,166,180	1,619 70	270 24	1 03	66.8	16.7	7,953,685 pounds.
375,736	2,263,571	1,609 94	267 24	1 12	59.1	16.6	3,139,520 pounds.
189,018	832,459	1,806 84	296 73	1 10	58.6	22.7	4,088,190 pounds.
257,057	1,282,412	1,788 58	358 52	1 18	48.4	20.0	....
193,765	909,289	1,191 73	253 95	93	20.9	21.3	....
148,438	527,678	814 66	224 91	81	57.2	27.6	....
674,424	2,674,368	1,379 96	348 00	1 18	53.4	25.2	....
658,608	3,205,419	1,279 61	262 92	97	59.2	20.5	....
1,216,612	4,005,007	770 64	234 02	91	43.1	30.4	4,824,049 dozens.
628,994	3,643,308	1,460 83	252 20	94	67.0	17.3	....
340,255	1,510,181	1,097 52	247 28	82	27.8	12.9	2,626,571 yards.
125,802	706,120	1,636 01	291 88	98	43.9	17.8	10,319,945 yards.
$54,028,185	$202,410,382	$1,514 37	$404 22	$1 51	49.1	26.7	....

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Steel castings,	7	$5,316,197	$402,115	310	1,068
Steel billets, slabs, blooms, etc.,	5	13,223,900	7,368,078	291	1,289
Tool steel,	2	558,000	72,338	250	149
Iron and steel specialties,	3	141,000	44,507	285	152
Iron and steel forgings,	7	430,000	122,710	281	244
Iron specialties,	2	45,000	77,228	301	45
Malleable iron,	4	498,925	455,890	292	1,404
Bolts, nuts, etc.,	8	1,918,214	591,791	262	966
Spikes and rivets,	2	135,000	99,564	284	51
Wire nails,	2	905,000	792,350	247	599
Tacks and small nails,	4	163,500	40,862	209	114
Wire,	6	522,100	151,647	271	150
Wire rope,	2	700,000	230,111	303	166
Wire goods,	4	79,450	31,563	299	83
Wagon and carriage axles,	4	469,475	145,815	278	313
Carriage and wagon springs,	2	125,000	22,096	260	40
Scales, etc.,	5	173,500	88,826	287	131
Stoves, heaters, ranges, etc.,	39	5,607,709	860,896	228	3,628
Bath boilers, tanks, etc.,	2	54,000	31,163	305	28
Hardware specialties,	14	3,246,189	668,089	270	2,643
Edge tools,	12	1,613,064	223,034	227	827
Wrenches, picks, etc.,	5	571,000	152,785	266	[illegible]
Locomotives and cars built and repaired,	3	1,464,400	3,276,309	282	5,742
Car springs,	3	1,910,000	431,855	279	300
Car wheels and car axles,	2	500,000	164,452	289	293
Freight and street cars, etc.,	4	671,416	218,958	218	485
Wrought iron pipe and tubes,	5	13,505,000	7,101,673	298	5,110
Cast iron pipe,	3	613,059	767,967	302	615
Brass, copper and bronze goods,	22	2,328,192	1,216,281	294	1,352
Iron and steel bridges,	8	961,050	1,731,721	298	1,177
Locomotives, stationary engines, etc.,	9	11,643,157	8,933,971	306	5,651
Engines, boilers, etc.,	10	3,924,988	1,325,287	294	1,690
Railway switches, etc.,	2	1,758,700	723,597	306	728
Railway supplies,	1	1,000,000	400,000	300	500
Iron vessels and engines,	4	7,424,993	2,191,961	305	2,706
Boilers, tanks, stacks, etc.,	21	1,624,265	863,908	285	1 128
Machinery,	21	8,921,924	1,698,519	309	3.853
Foundries and machine shops,	25	3,062,486	1,049,859	295	2,101

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$478,303	$1,391,020	$1,302 45	$447 85	$1 44	38.9	34.4	18,313 tons.
632,077	10,517,987	3,100 71	490 36	1 69	70.0	8.6	675,187 tons.
72,164	243,469	1,634 02	484 32	1 94	29.7	29.6	528 tons.
51,996	225,244	1,485 16	342 08	1 20	19.7	23.0	1,115 tons.
120,823	315,364	1,252 28	495 18	1 76	38.9	33.3	3,533 tons.
22,700	119,167	2,618 16	504 44	1 68	64.8	19.1	2,510 tons.
647,054	1,627,267	1,159 02	460 86	1 58	28.0	39.8	27,466 tons.
308,826	1.221,990	1,265 00	318 97	1 22	48.4	25.2	....
18,219	159,246	3,122 47	357 24	1 26	62.5	11.4	4,416 tons.
230,387	1,346,116	2,247 27	384 62	1 56	58.9	17.1	39,781 tons.
31,752	107,112	939.58	278 53	1 33	38.1	29.6	1.474 tons.
60,682	300,614	2,004 09	404 55	1 49	50.4	20.2	4,048 tons.
74,810	596,192	3,591 52	450 67	1 49	38.6	12.5	3,420 tons.
27,354	99,311	1,128 53	310 84	1 04	31.8	27.5	....
158,320	491,920	1,571 63	506 84	1 82	29.6	32.2	....
20,799	62,864	1,571 60	519 98	2 00	35.1	33.1	562 tons.
74,385	263,089	2,008 31	567 82	1 98	33.8	28.3	....
1,683,743	4,267,423	1,623 83	464 10	2 04	20.2	39.5	....
12,498	63.699	2,274 97	446 36	1 46	48.9	19.6	....
1,053,746	2,686,482	1,016 45	398 69	1 48	24.9	39.2	....
304,988	781,832	945 38	368 79	1 62	28.5	39.0	....
123,034	462,043	1,576 94	419 91	1 58	33.0	26.6	....
3,019,356	6,534,498	1,138 02	525 84	1 86	50.2	46.2	....
161,177	1,088,057	3,626 85	537 26	1 93	39.7	14.8	12,543 tons.
72,701	327,822	1,614 89	358 18	1 24	50.2	22.2	....
119,000	414,156	853 93	245 36	1 13	52 9	28.7	....
2,045,620	11,341,565	2,219 49	400 32	1 34	62 6	18.0	297,601 tons.
250,984	1,184,240	1,925 59	408 02	1 35	64 8	21.2	72,030 tons.
574,577	2,217,534	1,640 19	424 98	1 45	54.9	25.9	....
564,817	3,115,371	2,646 87	479 88	1 61	55.6	18.1	54,013 tons.
3,032,837	8,531,117	1,509 67	536 69	1 75	46.1	35.6	....
840,896	2,658,616	1,573 15	497 57	1 69	49.9	31.6	....
355,302	1,311,129	1.801 00	488 05	1 59	52.2	27.1	....
220,000	1,218,000	2.436 00	440 00	1 47	32.8	18.0	15,225 tons.
2,024,270	4,949,232	1,335 46	546 22	1 79	44.3	40.9	....
535,025	1,904,346	1,688 25	474 32	1 66	45.4	28.1	....
1,970,570	5,451,809	1,414 95	511 44	1 66	31.2	36.1	....
995,718	2,965,528	1,411 48	473 98	1 61	35.4	33.6	....

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Files, etc.,	2	$510,000	$92,201	266	346
Saws,	3	335,000	26,812	210	50
Plumbers' supplies,	3	2,043,751	*	269	921
Electrical supplies,	4	12,848,743	1,365,199	297	2,173
Shovels, spades, scoops, etc.,	8	651,100	276,019	219	511
Safes and vault doors,	2	68,000	63,173	301	125
Iron beds,	2	6,900	8,955	296	30
Ornamental metal work,	3	336,000	178,204	295	273
Metal and metallic goods,	1	280,400	50,060	258	207
Building iron work,	1	73,000	20,158	300	113
Structural iron work,	1	750,000	666,741	308	549
Iron chains,	5	258,542	126,244	272	231
Iron fences and railing,	7	42,500	58,623	298	100
Agricultural implements,	13	2,207,000	1,053,199	293	1,424
Steam pumps,	2	376,974	127,524	307	140
Bicycles,	4	353,000	555,666	280	335
Pianos and organs,	4	386,000	109,435	295	182
Tinware,	5	374,000	216,243	301	275
Paper manufactories,	10	4,902,464	1.562.749	277	1,556
Wall paper,	5	545,500	639,158	266	501
Cigars,	50	3,265,251	3,462,289	290	7,911
Book binding,	3	126,500	62,018	280	137
Cordage, rope and twine,	6	3,265,000	3,491,548	317	2,129
Paper, paper boxes, envelopes, etc.,	27	1,504,284	* 967,556	301	1,911
Pottery,	3	585,000	72,400	279	225
Paving brick,	9	611,500	32,756	244	507
Building brick,	41	4,575,107	178,207	217	2,021
Fire brick,	18	2,421,783	382,434	281	1,923
Slate roofing, etc., tonnage,	7	1,241,800	40,436	230	910
School slates,	3	87,000	77,915	234	174
Slate roofing, etc., squares,	17	757,914	74,911	240	1,498
Window glass, bottles and table goods,	30	15,616,882	2,296,155	255	10.081
Glazed and chrome kid,	7	4,068,915	7,036,904	301	3,255
Men's, women's, misses' and children's shoes,	18	2,615,705	3,553,331	291	4,032
Suspenders,	2	92,000	233,500	403	120
Hats and caps,	3	307,789	413,877	289	489
Fur and felt hats,	5	2,782,743	476,658	308	1.048

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*Incomplete returns of value of basic material.

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$110,805	$329,533	$952 40	$320 24	$1 20	28.0	33.6	....
21,557	71,437	1,428 75	431 14	2 05	37.5	30.2	....
377,194	962,000	1,044 52	409 55	1 52	....	39.2	....
1,184,647	3,463,804	1,594 02	545 17	1 84	39.4	34.2	....
202,067	803,048	1,571 52	395 43	1 81	34.4	25.2	....
59,906	157,476	1,259 81	479 25	1 59	40.1	38.0	....
6,191	19,905	663 50	206 33	70	45.0	31.1	....
158,948	420,546	1,540 46	582 23	1 97	42.4	37.8	....
65,704	184,101	889 37	317 41	1 23	27.2	35.7	....
63,988	139,837	1,237 50	566 35	1 89	14.4	45.8	2,200 tons.
280,454	1,109,451	2,020 86	510 84	1 69	60.9	25.3	....
96,671	336,049	1,456 06	418 49	1 54	37.6	28.8	4,898 tons.
48,923	145,641	1,456 41	489 23	1 64	40.8	33.6	....
625,572	2,527,451	1,774 89	439 31	1 50	41.7	24.7	....
103,105	249,488	1,782 06	736 46	2 40	51.1	41.3	....
192,099	788,628	2,354 11	573 43	2 05	70.4	24.4	....
90,853	287,424	1,579 25	499 19	1 69	38.1	31.6	....
106,907	467,000	1,698 18	388 75	1 29	46.3	22.9	....
615,092	3,499,186	2,250 28	395 56	1 43	44.7	17.6	61,895 tons.
169,043	1,238,000	2,471 06	337 41	1 27	51.6	13.7	29,248,793 rolls.
2,218,695	8,804,314	1,112 92	280 46	97	39.3	25.1	377,548,536 cigars.
66,378	162,373	1,185 20	484 51	1 73	38.2	40.9	....
657,023	4,729,813	2,221 61	322 70	1 02	78.8	14.5	....
511,220	2,049,073	1,072 25	267 51	89	47.2	24.9	....
96,771	243,197	1,080 88	430 09	1 54	29.8	39.8	....
168,302	405,820	800 43	331 96	1 36	8.7	41.5	46,102,186 bricks.
696,380	1,614,813	799 02	344 57	1 59	11.3	43.1	224,143,398 bricks.
719,308	1,570,074	814 35	373 08	1 33	24.4	45.8	330,914 tons.
296,492	553,070	607 78	325 82	1 42	7.3	53.6	45,860 tons.
29,694	146,444	841 53	170 65	73	53.2	20.3	39.629 cases.
487,904	807,486	539 04	325 70	1 36	9.3	60.4	249,261 squares.
4,141,286	9,287,567	925 89	412 85	1 62	24.7	44.6	....
1,285,138	10,649,292	3,271 67	394 82	1 31	66.8	12.7	1,139,807 dozens.
1,410,546	6,030,847	1,495 75	352 32	1 21	58.9	23.4	4,610,460 pairs.
33,936	349,100	2,909 17	282 80	70	66.9	9.7	152,000 dozens.
179,336	782,060	1,599 30	366 74	1 27	52.9	22.9	103,934 dozens.
514,651	1,558,607	1,487 22	491 08	1 59	30.6	33.0	51,025 dozens.

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Wool hats,	8	$504,035	$377,733	254	507
Umbrellas and parasols,	6	437,000	865,091	307	667
Dress trimmings, braids, etc.,	8	1,176,796	685,621	295	1,393
Shirts and shirt waists,	11	958,300	1,012,614	296	1,953
Neckwear,	5	174,099	255,057	303	242
Cotton and woolen cloths,	26	3,519,446	3,874,071	287	4,863
Carpets,	20	3,480,181	3,077,136	290	2,958
Clothing,	9	1,761,016	1,286,814	300	2,277
Cotton goods,	20	3,235,764	1,748,664	277	3,247
Woolen and worsted cassimeres,	13	1,601,733	1,576,233	277	1,767
Woolen and worsted fabrics,	17	3,180,727	2,951,503	289	3,243
Woolen and worsted yarns,	13	2,519,270	2,512,458	290	1,817
Rugs, yarns, etc.,	6	5,579,779	2,174,431	273	3,363
Carpet yarns,	12	1,012,575	1,326,068	295	657
Cotton yarns,	8	1,302,175	775,158	277	759
Worsted yarns,	9	2,124,920	2,059,975	289	1,823
Cotton and woolen yarns,	5	978,015	528,826	291	696
Woolen blankets, flannels, etc.,	5	687,000	638,333	301	719
Lace goods,	3	741,300	252,059	296	855
Chenille goods,	4	485,000	345,695	297	728
Upholstery goods,	10	1,875,721	1,498,449	299	2,059
Knit goods, underwear,	16	1,884,500	2,111,074	289	2,757
Hosiery,	34	2,361,951	2,215,839	289	5,937
Silk—Broad goods, thrown silk, yarns, etc.,	7	1,924,700	3,397,403	301	3,643
Silk—Broad goods and ribbons,	3	1,675,000	1,025,655	301	2,121
Silk—Ribbons,	4	394,180	459,658	299	585
Totals and averages,	901	$214,614,083	$108,885,762	276	150,078

YEAR 1897.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$158,571	$714,316	$1,408 91	$312 78	$1 23	52.9	22.2	211,456 dozens.
199,856	1,436,838	2,154 18	299 63	97	60.2	13.9	1,095,602 pieces.
380,240	1,471,696	1,056 49	272 97	93	46.6	25.8	....
519,631	2,041,342	1,045 23	266 07	90	49.6	25.5	204,576 dozens.
84,381	455,956	1,884 11	348 68	1 15	55.9	18.5	....
1,679,106	6,565,773	1,850 15	345 28	1 20	59.0	25.6	....
1,093,072	5,026,839	1,699 40	369 53	1 27	61.2	21.7	13,612,975 yards.
632,711	3,058,304	905 63	187 36	62	42.1	20.7	....
1,036,494	3,436,182	1,026 25	309 68	1 12	50.9	30.2	....
596,028	2,952,899	1,671 14	337 31	1 20	53.4	20.2	....
1,054,239	5,323,713	1,592 49	315 36	1 09	56.0	19.8	....
564,008	3.781,819	2,081 35	310 41	1 07	66.4	14.9	14,075,749 pounds.
1,072,563	4,406,440	1,307 94	318 36	1 17	49.4	24.4	....
245 091	1,828,851	2,783 64	373 05	1 27	72.5	13.4	14,722,000 pounds.
213,940	1,184,881	1,561 04	281 87	2 02	65.4	18.1	8,552,212 pounds.
489,454	3,446,514	1,890 57	268 49	93	59.8	14.2	4,558,425 pounds.
218,632	990,280	1.422 82	314 13	1 08	53.4	22.1	4.415.906 pounds.
264,403	1,221,499	1,698 89	367 74	1 22	52.3	21.6	....
223,436	1.086,945	1,271 28	261 33	88	23.2	20.6	....
181,224	613,450	842 65	248 93	84	56.4	29.5	....
765,506	2,864,002	1,390 97	371 79	1 24	52.3	26.7	....
726,134	3,628,944	1,316 27	263 38	91	58.2	20.0	....
1,464,552	4,767,554	803 02	246 68	85	46.5	30.7	5,732,823 dozens.
840,337	4,970,593	1,364 42	230 67	77	68.4	16.9	....
492,634	2,414,705	1,138 47	232 26	77	42.5	20.4	3,910,794 yards.
187,491	895,892	1,674 56	350 45	1 17	51.4	20.9	9,934,072 yards.
$56,497,999	$220,092,603	$1,466 52	$376 46	$1 36	49.5	25.7	....

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation	Number of persons employed.
Steel castings,	7	$5,354,845	$527,445	300	1,[illegible]
Steel billets, slabs, blooms, etc.,	5	12,728,900	8,290,728	305	1,480
Tool steel,	2	640,000	86,585	301	204
Iron and steel specialties,	3	125,000	23,080	297	221
Iron and steel forgings,	7	482,350	157,035	298	303
Iron specialties,	2	45,960	45,879	301	35
Malleable iron,	4	522,000	605,654	296	1,080
Bolts, nuts, etc.,	5	1,357,776	713,906	274	1,020
Spikes and rivets,	2	132,950	109,448	281	52
Wire nails,	3	905,000	475,730	130	615
Tacks and small nails,	4	123,500	85,040	248	68
Wire,	6	555,000	192,553	311	167
Wire rope,	2	700,000	248,135	303	158
Wire goods,	4	90,950	37,195	303	107
Wagon and carriage axles,	4	403,475	125,841	298	302
Carriage and wagon springs,	2	135,000	29,082	300	41
Scales, etc.,	5	179,500	92,725	290	148
Stoves, heaters, ranges, etc.,	20	3,690,161	995,930	287	3,722
Bath boilers, tanks, etc.,	2	54,000	30,676	302	32
Hardware specialties,	14	3,227,946	701,185	256	2,871
Edge tools,	12	1,646,920	223,289	271	938
Wrenches, picks, etc.,	5	571,000	148,063	303	272
Locomotives and cars built and repaired,	2	1,442,800	4,191,152	296	5,985
Car springs,	3	1,910,000	624,015	297	300
Car wheels and car axles,	2	500,000	133,905	306	287
Freight and street cars,	4	676,416	605,723	300	698
Wrought iron pipe and tubes,	5	13,505,000	8,295,486	303	5,[illegible]
Cast iron pipe,	3	641,710	810,511	296	680
Brass, copper and bronze goods,	22	2,338,450	1,498,962	298	1,532
Iron and steel bridges,	8	961,050	2,126,144	302	1,423
Locomotives, stationary, engines, etc.,	9	12,119,787	5,396,109	305	7,967
Engines, boilers, etc.,	10	3,930,793	1,514,153	304	1,904
Railway switches, etc.,	2	1,795,842	793,723	305	856
Railway supplies,	1	1,000,000	600,000	300	1,000
Iron vessels and engines,	4	7,262,278	2,977,976	304	5,384
Boilers, tanks, stacks, etc.,	21	1,656,210	1,172,463	291	1,386
Machinery,	21	9,297,253	2,030,334	303	4,484
Foundries and machine shops,	26	3,161,069	1,263,302	296	2,447

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$619,179	$2,098,933	$1,539 94	$454 28	$1 46	24.6	29.5	27,786 tons.
876,325	10,265,659	6,889 70	588 14	2 06	80.8	8.5	722,975 tons.
150,952	419,725	2,057 48	739 96	2 31	20.6	35.9	905 tons.
37,751	201,340	1,536 95	288 17	1 00	13.9	18.7	824 tons.
175,796	463,025	1,456 05	552 82	1 89	23.9	38.0	6,866 tons.
18,700	78,107	2,231 62	534 29	1 79	58.7	23.9	1,061 tons.
776,815	2,288,315	1,395 31	473 67	1 59	30.5	33.9	38,228 tons.
348,639	1,424,103	1,410 00	345 19	1 26	50.1	24.5	....
19,724	190,000	3,454 54	358 62	1 23	57.6	10.4	6,544 tons.
167,475	908,291	1,476 90	272 32	1 51	52.4	18.4	27,114 tons.
24,483	94,162	1,884 73	360 04	1 45	37.2	26.0	1,243 tons.
79,965	367,860	2,202 75	478 83	1 54	53.4	22.0	4,334 tons.
88,858	655,466	3,449 82	467 67	1 54	37.9	13.6	3,749 tons.
27,923	147,568	1,379 14	260 96	86	25.2	18.9	....
189,439	582,349	1,608 70	523 31	1 79	21.8	32.5	....
21,078	63,456	1,547 71	514 09	1 91	31.6	32.2	594 tons.
81,860	276,973	1,923 46	563 47	1 90	33.5	29.6	....
1,793,402	4,317,431	1,163 10	483 14	2 04	20.5	41.5	49,465 tons.
13,611	62,102	1,940 69	425 34	1 41	49.4	21.9	....
1,127,879	2,823,993	983 62	392 28	1 58	24.8	39.9	....
401,694	1,069,190	1,217 76	457 51	1 57	27.4	37.6	....
139,125	494,058	1,816 39	511 49	1 88	29.0	23.1	....
3,411,544	8,000,396	1,341 22	571 93	1 93	52.4	42.6	....
220,529	1,618,264	4,385 54	597 64	2 01	38.6	13.6	22,162 tons.
90,929	322,632	1,558 61	439 27	1 43	41.5	28.2	....
220,165	933,708	1,397 76	329 59	1 23	64.9	23.6	....
2,461,501	14,552,862	2,556 27	430 62	1 42	56.9	16.9	858,804 tons.
263,550	1,260,038	1,828 79	382 51	1 29	64.3	20.1	79,212 tons.
685,625	2,782,387	1,816 18	447 54	1 50	53.4	24.6	....
647,664	3,717,213	2,612 24	455 14	1 51	57.2	17.4	73,781 tons.
4,559,167	12,862,598	1,614 48	572 26	1 88	41.9	35.5	....
996,882	3,088,737	1,622 24	523 57	1 72	49.0	32.3	....
459,897	1,462,993	1,651 23	519 07	1 70	54.3	31.4	....
500,000	3,890,000	3,890 00	500,00	1,67	15.4	12.9	55,000 tons.
2,880,847	6,635,431	1,232 44	535 08	1 76	45.2	43.4	....
639,883	2,455,255	1,771 47	461 68	1 59	47.8	26.1	....
2,402,336	6,500,975	1,466 16	541 79	1 81	31.2	37.0	....
1,184,333	3,571,600	1,459 58	483 99	1 63	35.4	33.2	....

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation	Number of persons employed.
Steel castings,	7	$5,354,846	$517,448	310	1,363
Steel billets, slabs, blooms, etc.,	5	12,728,900	8,290,732	285	1,490
Tool steel,	2	640,000	86,525	321	204
Iron and steel specialties,	3	125,000	28,028	287	131
Iron and steel forgings,	7	482,850	157,035	293	318
Iron specialties,	2	45,000	45,879	301	35
Malleable iron,	4	532,600	698,054	298	1,640
Bolts, nuts, etc.,	8	1,957,776	713,906	274	1,010
Spikes and rivets,	2	132,950	109,443	291	55
Wire nails,	3	905,000	475,780	180	615
Tacks and small nails,	4	123,500	35,049	248	68
Wire,	6	555,600	192,883	311	167
Wire rope,	2	700,000	248,135	302	190
Wire goods,	4	80,050	37,195	303	107
Wagon and carriage axles,	4	469,475	126,841	292	362
Carriage and wagon springs,	2	135,000	20,082	269	41
Scales, etc.,	5	178,500	92,725	299	144
Stoves, heaters, ranges, etc.,	39	5,680,161	885,939	237	3,712
Bath boilers, tanks, etc.,	2	54,000	30,676	302	32
Hardware specialties,	14	3,337,946	701,185	256	2,871
Edge tools,	12	1,646,820	293,289	291	878
Wrenches, picks, etc.,	5	571,000	143,063	283	272
Locomotives and cars built and repaired,	3	1,442,800	4,191,152	296	5,965
Car springs,	3	1,910,000	624,015	297	369
Car wheels and car axles,	2	500,000	188,905	308	207
Freight and street cars,	4	676,416	605,723	269	668
Wrought iron pipe and tubes,	5	13,505,000	8,285,486	303	5,693
Cast iron pipe,	3	641.710	810.511	296	689
Brass, copper and bronze goods,	22	2,336,450	1,486,962	298	1,532
Iron and steel bridges,	8	961,050	2,126,144	302	1,423
Locomotives, stationary, engines, etc.,	9	12,118,787	5,386,109	305	7,967
Engines, boilers, etc.,	10	3,930,783	1,514,153	304	1,904
Railway switches, etc.,	2	1,785,842	793,723	305	836
Railway supplies,	1	1,000,000	600,000	300	1,000
Iron vessels and engines,	4	7,262,278	2,997,076	304	5,384
Boilers, tanks, stacks, etc.,	21	1,656,210	1,172,463	291	1,386
Machinery,	21	9,297,253	2,030,334	300	4,434
Foundries and machine shops,	25	3,161,069	1,263,302	296	2,447

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$619,179	$2,098,933	$1,539 94	$454 28	$1 46	24.6	29.5	27,736 tons.
876,325	10,265,659	6,889 70	588 14	2 06	80.8	8.5	722,975 tons.
150,952	419,725	2,057 48	739 96	2 31	20.6	35.9	905 tons.
37,751	201,340	1,536 95	288 17	1 00	13.9	18.7	824 tons.
175,796	463,025	1,456 05	552 82	1 89	23.9	38.0	6,866 tons.
18,700	78,107	2,231 62	534 29	1 79	58.7	23.9	1,061 tons.
776,815	2,288,315	1,395 31	473 67	1 59	30.5	33.9	38,228 tons.
348,639	1,424,103	1,410 00	345 19	1 26	50.1	24.5	....
19,724	190,000	3,454 54	358 62	1 23	57.6	10.4	6,544 tons.
167,475	908,291	1,476 90	272 32	1 51	52.4	18.4	27,114 tons.
24,483	94,162	1,384 73	360 04	1 45	37.2	26.0	1,243 tons.
79,965	367,860	2,202 75	478 83	1 54	52.4	22.0	4,334 tons.
88,858	655,466	3,449 82	467 67	1 54	37.9	13.6	3,749 tons.
27,923	147,568	1,379 14	260 96	86	25.2	18.9	....
189,439	582,349	1,608 70	523 31	1 79	21.8	32.5	....
21,078	63,456	1,547 71	514 09	1 91	31.6	33.2	594 tons.
81,860	276,978	1,923 46	568 47	1 90	33.5	29.6	....
1,793,402	4,317,481	1,163 10	483 14	2 04	20.5	41.5	49,465 tons.
13,611	62,102	1,940 69	425 34	1 41	49.4	21.9	....
1,127,879	2,823,993	983 62	392 28	1 53	24.8	39.9	....
401,694	1,069,190	1,217 76	457 51	1 57	27.4	37.6	....
139,125	494,068	1,816 39	511 49	1 88	29.0	28.1	....
3,411,544	8,000,396	1,341 22	571 93	1 93	52.4	42.6	....
220,529	1,618,264	4,385 54	597 64	2 01	38.6	13.6	22,162 tons.
90,929	322,632	1,558 61	439 27	1 43	41.5	28.2	....
220,165	933,708	1,397 76	329 59	1 23	64.9	23.6	....
2,461,501	14,552,862	2,556 27	430 62	1 42	56.9	16.9	358,304 tons.
253,550	1,260,038	1,828 79	382 51	1 29	64.3	20.1	79,212 tons.
685,625	2,782,387	1,816 18	447 54	1 50	53.4	24.6	....
647,664	3,717,213	2,612 24	455 14	1 51	57.2	17.4	73,781 tons.
4,559,167	12,862,598	1,614 48	572 26	1 88	41.9	35.5	....
996,882	3,088,737	1,622 24	523 57	1 72	49.0	32.3	....
459,897	1,462,993	1,651 23	519 07	1 70	54.3	31.4	....
500,000	3,890,000	3,890 00	500,00	1,67	15.4	12.9	55,000 tons.
2,880,847	6,635,431	1,232 44	535 08	1 76	45.2	43.4	....
639,888	2,455,255	1,771 47	461 68	1 59	47.8	26.1	....
2,402,335	6,500,975	1,466 16	541 79	1 81	31.2	37.0	....
1,184,333	3,571,600	1,459 58	483 99	1 63	35.4	33.2	....

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Files, etc.,	2	$512,000	$82,739	278	369
Saws,	3	335,000	28,087	244	47
Plumbers' supplies,	3	2,031,622	*	290	965
Electrical supplies,	4	13,893,503	2,340,407	301	3,499
Shovels, spades, scoops, etc.,	8	648,100	296,298	246	528
Safes and vault doors,	2	68,000	65,984	298	121
Iron beds,	2	6,900	7,540	305	27
Ornamental metal work,	2	398,676	221,243	297	406
Metal and metallic goods,	3	390,000	58,176	255	225
Building iron work,	1	73,000	20,599	304	127
Structural iron work,	1	760,000	1,220,737	307	714
Iron chains,	5	264,542	165,742	298	269
Iron fences and railings,	7	46,000	81,971	305	126
Agricultural implements,	13	2,243,000	1,211,977	300	1,593
Steam pumps,	2	380,871	123,813	304	151
Bicycles,	4	355,000	539,652	277	418
Pianos and organs,	4	402,000	132,931	287	183
Tinware,	5	374,000	217,433	300	278
Paper manufactories,	10	5,081,734	1,526,966	281	1,517
Wall paper,	5	560,500	754,409	274	527
Cigars,	50	3,242,190	3,868,072	293	8,385
Book binding,	3	130,000	65,522	283	156
Cordage, rope and twine,	6	3,275,000	3,532,381	312	2,106
Paper, paper boxes, envelopes, etc.,	27	1,489,559	1,044,300	302	2,472
Pottery,	3	585,000	73,789	289	283
Paving brick,	9	639,644	29,613	229	590
Building brick,	41	4,367,786	177,769	213	1,992
Fire brick,	18	2,556,283	418,484	243	2,327
Slate roofing, etc., tonnage,	7	1,222,007	37,321	248	852
School slates,	3	87,000	75,115	205	156
Slate roofing, etc., squares,	17	951,913	77,329	181	2,009
Window glass, bottles and table goods,	30	15,491,329	2,063,073	261	10,209
Glazed and chrome kid,	7	4,163,993	3,092,540	298	3,745
Men's, women's, misses' and children's shoes,	18	2,735,870	3,782,316	288	4,268
Suspenders,	2	95,000	245,000	297	127
Hats and caps,	3	296,776	377,205	286	560
Fur and felt hats,	5	2,775,406	494,817	307	1,257
Wool hats,	8	558,635	348,178	273	558

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*Incomplete returns of value of basic material.

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$117,553	$400,465	$1,085 27	$318 57	$1 15	20.7	29.4	....
22,939	76,338	1,624 21	488 06	2 00	36.8	30.0	....
432,969	1,097,068	1,136 85	448 67	1.55	....	39.5	....
1,929,920	6,821,374	1,949 52	551 56	1 83	34.3	28.3	....
236,593	997,314	1,888 85	448 09	1 82	29.7	23.7	....
61,012	153,085	1,265 17	504 28	1 69	43.1	39.9	....
6,243	22,121	819 30	231 22	76	34.1	28.2	....
205,995	471,236	1,163 69	508 63	1 71	46.9	43.7	....
74,084	207,436	922 20	329 26	1 29	28.0	35.7	....
68,466	139,532	1,098 68	539 10	1 77	14.8	49.1	3,000 tons.
373,073	1,918,107	2,686 42	522 51	1 70	63.6	19.5	....
120,291	409,304	1,521 58	447 18	1 50	40.5	29.4	6,307 tons.
57,197	187,059	1,484 60	453 94	1 49	43.8	30.6	....
752,266	2,958,496	1,850 22	470 46	1 57	41.0	25.4	....
112,032	313,511	2,076 23	741 93	2 44	39.5	35.7	....
189,355	833,479	1,993 97	453 00	1 63	64.7	22.7	....
90,137	251,421	1,373 88	492 55	1 72	52.9	35.8	....
103,119	469,200	1,687 77	370 93	1 24	46.3	22.0	....
600,473	3,384,470	2,231 03	395 63	1 41	45.1	17.7	56,305 tons.
188,198	1,453,336	2,757 75	357 11	1 30	51.9	12.9	34,867,977 rolls.
2,424,540	9,591,011	1,143 83	289 15	99	40.3	25.3	395,562,778 cigars.
75,293	180,567	1,157 48	482 65	1 70	36.3	41.7	....
679,993	4,963,813	2,356 99	322 88	1 03	71.2	13.7	....
567,748	2,282,183	923 21	229 67	76	45.8	24.9	....
103,249	279,866	1,175 91	433 82	1 50	26.4	36.9	....
180,022	425,148	720 59	306 12	1 33	6.1	42.3	49,462,959 bricks.
667,870	1,526,413	766 27	335 28	1 57	11.6	43.8	24,282,022 bricks.
843,336	1,915,392	823 12	362 41	1 48	21.8	44.0	408,796 tons.
276,506	576,702	676 88	324 54	1 31	6.5	47.9	39,745 tons.
27,337	125,769	806 21	175 24	85	59.7	21.7	33,047 cases.
522,063	834,868	415 56	259 81	1 43	9.2	62.5	296,593 squares.
4,355,737	9,865,247	966 33	426 66	1 64	20.9	44.2	....
1,472,762	12,691,322	3,388 87	393 26	1 32	63.8	11.6	1,332,785 dozens.
1,517,798	6,558,748	1,536 73	355 62	1 23	57.7	23.1	4,705,019 pairs.
41,000	391,500	3,082 68	322 83	1 09	62.6	10.5	165,000 dozens.
176,383	737,149	1,316 34	314 97	1 10	51.2	23.9	100,663 dozens.
595,085	1,731,063	1,377 16	473 12	1 54	28.6	34.4	55,925 dozens.
163,081	697,514	1,250 02	292 26	1 07	49.9	23.4	214,385 dozens.

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Character of Industries.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
Umbrallas and parasols, ...	6	$356,000	$860,178	308	579
Dress trimmings, braids, etc., ...	8	1,229,296	876,508	298	1,543
Shirts and shirt waists, ...	11	985,200	1,170,664	297	2,105
Neckwear, ...	5	146,977	245,705	304	225
Cotton and woolen cloths, ...	26	3,518,646	3,880,272	265	4,834
Carpets, ...	20	3,579,213	3,040,388	290	2,982
Clothing, ...	9	1,627,101	1,577,942	303	3,106
Cotton goods, ...	20	3,303,271	1,739,401	289	3,501
Woolen and worsted cassimeres, ..	13	1,563,184	1,682,034	273	1,873
Woolen and worsted fabrics, ...	17	3,327,892	3,071,629	288	3,105
Woolen and worsted yarns, ...	13	3,416,000	2,461,312	288	1,750
Rugs, yarns, etc., ...	6	5,692,824	2,010,467	280	3,226
Carpet yarns, ...	12	1,008,008	980,471	261	603
Cotton yarns, ...	8	1,311,037	792,559	294	845
Worsted yarns, ...	9	2,139,560	1,792,724	273	1,795
Cotton and woolen yarns, ...	5	978,491	490,736	2 3	716
Woolen blankets, flannels, etc., ..	5	696,500	1,133,808	351	1,063
Lace goods, ...	3	795,000	290,322	307	974
Chenille goods, ...	4	485,000	376,595	300	663
Upholstery goods, ...	10	1,856,148	1,626,165	301	2,127
Knit goods, underwear, ...	16	1,920,100	2,206,272	281	2,758
Hosiery, ...	34	2,555,041	2,410,810	285	6,228
Silk—Broad goods, thrown silk, yarns, etc., ...	7	2,277,500	3,818,644	290	2,947
Silk—Broad goods and ribbons, ...	2	1,685,000	1,220,000	302	2,283
Silks—Ribbons, ...	4	445,318	514,851	299	624
Totals and averages, ...	901	$219,027,763	$122,120,995	286	165,323

YEAR 1898.

RECAPITULATION OF COMPARATIVE TABLE BY YEARS, 1896 SERIES.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year per each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.	Total production in tons or given quantity.
$157,172	$1,337,351	$2,309 76	$271 45	$0 88	64.3	11.7	1,040,256 pieces.
413,277	1,708,275	1,107 11	267 84	90	51.3	24.2	....
559,789	2,258,564	1,072 95	265 93	90	47.0	24.8	350,063 dozens.
81,815	435,114	1,938 84	363 62	1 20	56.5	18.8	....
1,692,156	6,683,097	1,382 52	350 05	1 32	58.1	25.3	....
1,075,140	5,122,683	1,717 87	360 54	1 24	59.4	21.0	12,904,587 yards.
622,926	2,985,866	961 63	200 62	66	52.9	20.9	....
1,116,787	3,608,179	1,030 61	318 99	1 10	48.2	30.9	....
632,542	3,049,807	1,623 10	336 64	1 20	55.1	20.7	....
1,074,441	5,390,285	1,687 10	336 29	1 17	57.0	19.9	....
527,411	4,545.227	2,597 27	301 38	1 05	54.2	11.6	10,089,876 pounds.
1,066,601	4,309,452	1,835 85	336 83	1 20	46.7	25.2	....
201,918	1,442,656	2,368 89	331 56	1 27	68.0	14.0	12,171,606 pounds.
254,495	1,310,385	1,550 75	301 18	1 02	60.5	19.4	9,548,201 pounds.
467,130	2,990,862	1,666 22	260 25	95	59.9	15.6	3,635,654 pounds.
227,559	990,226	1,382 99	317 82	1 08	49.5	23.0	4,301,128 pounds.
350,302	2,107,398	1,982 50	329 54	94	53.8	16.6	....
269,910	1,219,698	1,252 26	277 11	90	23.8	22.1	....
185,041	639,280	955 58	276 59	92	58.9	28.9	....
847,374	3,100,667	1,457 76	398 38	1 32	52.4	27.3	....
740,431	3,751,921	1,360 38	268 47	96	58.8	19.3	....
1,570,691	5,118,488	821 85	252 20	88	47.1	30.7	5,580,204 dozens.
949,659	5,681,769	1,439 52	240 60	83	67.2	16.7	....
533,246	2,942,433	1,288 84	233 57	77	41.5	18.1	4,235,463 yards.
213,252	1,067,823	1,684 26	336 36	1 12	48.2	20.0	18,846,776 yards.
$65,078,302	$254,683,443	$1,540 42	$393 62	$1 38	47.9	25.6	....

RESUME.

THE SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Years.	Number of establishments considered.	Capital invested in plants and fixed working capital.	Value of basic material.	Average number of days in operation.	Number of persons employed.
1896, ...	901	$211,053,779	$99,456,717	268	133,660
1897, ...	901	214,614,083	108,885,762	276	150,078
1898, ...	901	219,027,763	122,120,995	286	165,333

(Note.—Cost basic material, plumbers' supplies, three establishments not included.)

RESUME.

THE SAME ESTABLISHMENTS FOR THE YEARS 1896, 1897 AND 1898.

Aggregate amount of wages paid.	Market value of production.	Value of production during the year to each employe.	Average yearly earnings.	Average daily wage.	Relative per cent. basic material to value of production.	Relative per cent. wages to value of production.
$54,028,185	$202,410,382	$1,514 37	$404 22	$1 51	49.1	26.7
56,497,999	220,092,603	1,466 52	376 46	1 36	49.5	25.7
65,078,302	254,683,443	1,540 42	393 62	1 38	47.9	25.6

COMPARISON OF TOTALS ALL ESTABLISHMENTS (901) FOR THE YEARS 1896, 1897 AND 1898.

Years.	Total number of establishments considered.	Totals.	Increase (+) or decrease (—) as compared with the preceding year.		Increase (+) or decrease (—) 1898 as compared with 1896.	
			Amounts.	Percentage.	Amounts.	Percentage.
CAPITAL INVESTED.						
1896,	901	$211,053,779	....	....	....	....
1897,	901	214,614,083	+$3,560,304	+1.69	....	....
1898,	901	219,027,763	+4,413,680	+2.06	+$7,973,984	+3.77
VALUE OF BASIC MATERIAL.						
1896,	901	$99,456,717	....	....	....	....
1897,	901	108,885,762	+$9,429,045	+9.48	....	....
1898,	901	122,120,995	+13,235,233	+12.16	+$22,664,278	+22.79
AVERAGE NUMBER OF DAYS IN OPERATION.						
1896,	901	268	....	....	....	....
1897,	901	276	+8	+2.99	....	....
1898,	901	286	+10	+8.62	+18	+6.71
NUMBER OF PERSONS EMPLOYED.						
1896,	901	133,660	....	....	....	....
1897,	901	150,078	+16,418	+12.28	....	....
1898,	901	165,333	+15,255	+10.16	+31,673	+23.69
AGGREGATE AMOUNT OF WAGES PAID.						
1896,	901	$54.028,185	....	....	....	....
1897,	901	56,497,999	+$2,469,814	+4.57	....	....
1898,	901	65 078,302	+8,580,303	+15.19	+$11,050,117	+20.45
MARKET VALUE OF PRODUCTION.						
1896,	901	$202,410,382	....	....	....	....
1897,	901	220,092,603	+$17,682,221	+8.74	....	....
1898,	901	254,683,443	+34,590,840	+15.72	+$52,273,061	+25.83
AVERAGE YEARLY EARNINGS.						
1896,	901	$404 22	....	....	....	....
1897,	901	376 46	—$27 76	—6.87	....	....
1898,	901	393 62	+17 16	+4.56	—$10 60	—2.62
AVERAGE DAILY WAGE.						
1896,	901	$1 51	....	....	....	....
1897,	901	1 36	—$0 15	—9.93	....	....
1898,	901	1 38	+02	+1.47	—$0 13	—8.61

COMPARISON OF TOTALS ALL ESTABLISHMENTS (901) FOR THE YEARS 1896, 1897 AND 1898.

Years.	Total number of establishments considered.	Totals.	Increase (+) or decrease (—) as compared with the preceding year.		Increase (+) or decrease (—) 1898 as compared with 1896.	
			Amounts.	Percentage.	Amounts.	Percentage.
VALUE OF PRODUCTION DURING THE YEAR TO EACH EMPLOYE.						
1896,	901	$1,514 37	....	....	....	....
1897,	901	1,466 52	—$47 85	—3.16	....	....
1898,	901	1,540 42	+73 90	+5.04	+$26 05	+1.72
RELATIVE PER CENT. BASIC MATERIAL TO VALUE OF PRODUCTION.						
1896,	901	49.1	....	....	....	....
1897,	901	49.5	+.4	....	....	....
1898,	901	47.9	—1.6	....	—1.2	....
RELATIVE PER CENT. WAGES TO VALUE OF PRODUCTION.						
1896,	901	26.7	....	....	....	....
1897,	901	25.7	—1.0	....	....	....
1898,	901	25.6	—.1	....	—1.1	....

NOTE.—In basic material eliminating the three plumbing establishments.

SILK MANUFACTURE FOR 1898.

Total number of establishments engaged in silk manufacture during 1898,	88
Total number of spindles, 699,308;	
Winding and doubling,	179,723
Spinning and twisting,	482,699
Braiding,	36,886
Total number of hand looms, 177;	
Plain broad goods,	36
Jacquard,	54
Narrow goods,	87
Total number of power looms, 9,238;	
Plain broad goods,	5,234
Jacquard,	1,748
Ribbons,	1,447
Other narrow goods,	809
Total number of machines, 3,401;	
Knitting and lace,	268
Sewing,	201
Braiding,	2,932
Total number of employes, 20,365;	
Males over 16 years of age,	5,441

Females over 16 years of age,	10,998
Children between the ages of 13 and 16,	3,926

Aggregate wages paid, $4,866,851;

Males,	$2,022,586
Females,	2,371,254
Children,	473,011

Average number of weeks in operation,	51

Total value of production, $32,250,599, classified as follows:

Tram and organzine,	$11,223,898
Yarns,	2,977,140
Spool silk, floss, etc.,	725,000
Ribbons,	4,327,274
Dress silks, satins, plushes and other broad goods,	10,889,464
Miscellaneous products,	2,107,823

SILK MANUFACTURE—Continued.

PRODUCTION OF BROAD GOODS AND RIBBONS.

Broad Goods,	18,870,096 yds.
Ribbons,	69,532,622 yds.

AVERAGE YEARLY EARNINGS.

Males,	371 73
Females,	215 61
Children,	120 48

AVERAGE WEEKLY EARNINGS.

Males,	7 29
Females,	4 23
Children,	2 36
Value of production per employe,	1,587 75
Relative per cent. of wages to value of production,	15.0

RESUME OF SILK MANUFACTURE FOR THE YEAR 1898.

Total number of establishments in operation, ...	88
Total number of spindles, ...	699,308
Total number of hand looms, ...	177
Total number of power looms, ...	9,238
Total number of machines, ...	3,401
Weeks in operation, ...	51
Number of persons employed, ...	20,365
Aggregate wages paid, ...	$4,866,851
Value of production, ...	$32,250,599

SILK MANUFACTURE—Continued.

COMPARISON IS MADE BETWEEN THE PRESENT CENSUS, THE FEDERAL CENSUS OF 1890, AND THE BUREAU'S CENSUS OF 1895.

MACHINERY.

Years.	Totals.	Increase (+) or decrease (—) 1895 as compared with 1890.		Increase (+) or decrease (—) 1898 as compared with 1895.		Increase (+) or decrease (—) 1898 as compared with 1890.	
		Amounts.	Percentage.	Amounts.	Percentage.	Amounts.	Percentage.
NUMBER OF SPINDLES—WINDING AND DOUBLING.							
1890,	89,429	....	......	....	......	....	......
1895,	129,152	+39,723	+44.4	....	......	....	......
1898,	179,723	....	......	+50,571	+39.2	+90,294	+101.0
SPINNING AND TWISTING.							
1890,	228,786	....	......	....	......	....	......
1895,	390,451	+161,665	+70.7	....	......	....	......
1898,	482,699	....	......	+92,248	+23.6	+253,913	+111.0
BRAIDING.							
1890,	30,217	....	......	....	......	....	......
1895,	37,809	+7,592	+25.1	....	......	....	......
1898,	36,886	....	......	—923	—2.4	+6,669	+22.1
NUMBER OF HAND LOOMS—PLAIN BROAD GOODS.							
1890,	60	....	......	....	......	....	......
1895,	61	+1	+1.7	....	......	....	......
1898,	36	....	......	—25	—41.0	—24	—40.0
JACQUARD.							
1890,	*	....	......	....	......	....	......
1895,	150	....	......	....	......	....	......
1898,	54	....	......	—96	—64.0	+54	......
NARROW GOODS.							
1890,	163	....	......	....	......	....	......
1895,	94	—69	—42.3	....	......	....	......
1898,	87	....	......	—7	—7.4	—76	—46.6
POWER LOOMS—PLAIN BROAD GOODS.							
1890,	2,306	....	......	....	......	....	......
1895,	3,445	+1,139	+49.4	....	......	....	......
1898,	5,234	....	......	+1,789	+51.9	+2,928	+127.0
JACQUARD.							
1890,	*	....	......	....	......	....	......
1895,	1,106	....	......	....	......	....	......
1898,	1,748	....	......	+642	+58.0	+1,748	......

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*Federal census reported all Jacquard looms as machines.

SILK MANUFACTURE—Continued.

COMPARISON IS MADE BETWEEN THE PRESENT CENSUS, THE FEDERAL CENSUS OF 1890 AND THE BUREAU'S CENSUS ON 1895.

MACHINERY.

Years.	Totals.	Increase (+) or decrease (—) 1895 as compared with 1890.		Increase (+) or decrease (—) 1898 as compared with 1895.		Increase (+) or decrease (—) 1898 as compared with 1890.	
		Amounts.	Percentage.	Amounts.	Percentage.	Amounts.	Percentage.
RIBBONS.							
1890, ...	451	....	......	....	......	....	......
1895, ...	931	+480	+106.4	....	......	....	......
1897, ...	1,447	....	......	+516	+55.4	+996	+220.8
OTHER NARROW GOODS.							
1890, ...	603	....	......	....	......	....	......
1895, ...	210	—393	—65.2	....	......	....	......
1898, ...	809	....	......	+599	+285.2	+206	+34.2
NUMBER OF MACHINES—KNITTING AND LACE.							
1890, ...	20	....	......	....	......	....	......
1895, ...	185	+165	+825.0	....	......	....	......
1898, ...	268	....	......	+83	+44.9	+248	+1,240.0
SEWING.							
1890, ...	100	....	......	....	......	....	......
1895, ...	145	+45	+45.0	....	......	....	......
1898, ...	201	....	......	+56	+38.6	+101	+101.0
BRAIDING.							
1890, ...	0	....	......	....	......	....	......
1895, ...	1,950	+1,950	......	....	......	....	......
1898, ...	2,932	....	......	+982	+50.4	+2,932	......

SILK MANUFACTURE—Continued.

COMPARISON IS MADE BETWEEN THIS CENSUS, THE FEDERAL CENSUS OF 1890 AND THE BUREAU'S CENSUS OF 1895.

PERSONS EMPLOYED, WAGES AND VALUE.

Years.	Totals.	Increase (+) or decrease (—) 1895 as compared with 1890.		Increase (+) or decrease (—) 1898 as compared with 1895.		Increase (+) or decrease (—) 1898 as compared with 1890.	
		Amounts.	Percentage.	Amounts.	Percentage.	Amounts.	Percentage.
MALES OVER 16 YEARS OF AGE.							
1890,	2,420	....	......	....	......	....	......
1895,	3,853	+1,433	+59.2	....	......	....	......
1898,	5,441	....	......	+1,588	+41.3	+3,021	+123.8
FEMALES OVER 16 YEARS OF AGE.							
1890,	5,617	....	......	....	......	....	......
1895,	6,934	+1,317	+23.4	....	......	....	......
1898,	10,998	....	......	+4,064	+58.6	+5,381	+95.8
CHILDREN BETWEEN THE AGES OF 13 AND 16.							
1890,	1,293	....	......	....	......	....	......
1895,	3,028	+1,735	+134.2	....	......	....	......
1898,	3,926	....	......	+898	+29.6	+2,633	+203.7
TOTAL NUMBER OF PERSONS EMPLOYED.							
1890,	9,330	....	......	....	......	....	......
1895,	13,815	+4,485	+48.0	....	......	....	......
1898,	20,365	....	......	+6,550	+47.4	+11,035	+118.3
TOTAL AMOUNT OF WAGES PAID.							
1890,	$2,725,285	....	......	....	......	....	......
1895,	4,082,292	+$1,357,007	+49.8	....	......	....	......
1898,	4,866,851	....	......	+$784,559	+19.2	+$2,141,566	+78.5
TOTAL VALUE OF PRODUCTION.							
1890,	$19,357,546	....	......	....	......	....	......
1895,	24,184,583	+$4,827,037	+24.9	....	......	....	......
1898,	32,250,599	....	......	+$8,006,016	+33.1	+$12,893,053	+66.6

Comparison cannot be made as to classified earnings for the reason that separation of the wages paid was not made in 1895.

SILK MANUFACTURE—Continued.

RESUME OF ALL MACHINERY SPINDLES, ETC., 1895-1898, WITH CORRESPONDING INCREASE OR DECREASE AND RELATIVE PER CENT.

	Total Number.	Increase (+) or decrease (—).	Per cent of increase (+) or decrease (—).
ESTABLISHMENTS.			
1895,	65	....	....
1898,	88	+23	....
SPINDLES.			
1895,	557,492	....	....
1898,	699,308	+141,816	+25.4
HAND LOOMS.			
1895,	305	....	....
1898,	177	—128	—42.0
POWER LOOMS.			
1895,	5,692	....	....
1898,	9,238	+3,546	+62.2
MACHINES.			
1895,	2,280	....	....
1898,	3,401	+1,121	+49.2

PIG IRON PRODUCTION, 1898.

Gross tons,	5,367,979
Value,	$53,331,228
Average value per ton,	9 94
Value of basic material, ore and scrap or cinder only (fuel, limestone, management, office help and all other items of expense are not considered),	$29,377,657
Average cost of basic material per ton,	5 48
Average days in operation,	336
Total number of working people employed,	11,911
Aggregate wages paid to these working people,	$5,268,503
Average earnings for the year,	442 32
Average daily wage,	1 32

COMPARISON OF PIG IRON PRODUCTION FOR THE YEARS 1896, 1897, 1898.

Years.	Gross tons.	Increase (+) or decrease (—) as compared with previous years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount	Percentage.	Amount.	Percentage.
PIG IRON, IN GROSS TONS, PRODUCED.					
1896,	4,026,350	....	......	....	......
1897,	4,617,634	+591,284	+14.7	....	......
1898,	5,367,979	+750,345	+16.2	+1,341,629	+33.3
VALUE OF PRODUCTION.					
1896,	$45,172,039	....	......	....	......
1897,	48,884,854	+$3,712,815	+8.2	....	......
1898,	53,331,228	+4,446,374	+9.1	+$8,159,189	+18.0
AVERAGE VALUE PER TON.					
1896,	$11 21	....	......	....	......
1897,	10 58	—$0 63	—5.6	....	......
1898,	9 94	—64	—6.0	—$1 27	—11.3
AGGREGATE COST OF BASIC MATERIAL.					
1896,	$26,251,420	....	......	....	......
1897,	29,962,533	+$3,711,113	+14.1	....	......
1898,	29,377,657	—584.876	—1.9	+$3,126,237	+11.9
AVERAGE COST OF BASIC MATERIAL PER TON.					
1896,	$6 52	....	......	....	......
1897,	6 48	—$0 04	—.6	....	......
1898,	5 48	—1 00	—15.4	—$1 04	—16.0
NUMBER OF WORKING PEOPLE EMPLOYED.					
1896,	11,580	....	......	....	......
1897,	11,272	—308	—2.7	....	......
1898,	11,911	+639	+5.6	+331	+2.8
AVERAGE DAYS OF EMPLOYMENT.					
1896,	289	....	......	....	......
1897,	306	+17	+5.9	....	......
1898,	336	+30	+9.8	+47	+16.2

COMPARISON OF PIG IRON PRODUCTION FOR THE YEARS 1896, 1897, 1898—Continued.

Years.	Totals.	Increase (+) or decrease (—) as compared with previous years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount.	Percentage.	Amount.	Percentage.
AGGREGATE AMOUNT OF WAGES PAID.					
1896,	$4,589,165	....	......	....	......
1897,	4,676,970	+$87,805	+1.9	....	......
1898,	5,268,503	+591,533	+12.6	+$679,338	+14.8
AVERAGE YEARLY EARNINGS.					
1896,	$396 30	....	......	....	......
1897,	414 92	+$18 62	+4.7	....	......
1898,	442 32	+27 40	+6.6	+$46 02	+11.6
AVERAGE DAILY WAGE.					
1896,	$1 37	....	......	....	......
1897,	1 36	—$0 01	—0.7	....	......
1898,	1 32	—04	—3.0	—$0 05	—3 6
AVERAGE COST OF LABOR PER TON.					
1896,	$1 14	....	......	....	......
1897,	1 01	—$0 13	—11.4	....	......
1898,	98	—03	—2.9	—$0 16	—14.0

PRODUCTION OF PIG IRON, 1898, BY COUNTIES, AND RELATIVE PER CENT.

	Gross Tons.	Per cent.
Allegheny,	2,861,010	53.29
Mercer,	411,496	7.66
Cambria,	388,076	7.23
Lawrence,	357,221	6.66
Dauphin,	262,255	4.89
Lebanon,	242,944	4.53
Lehigh,	172,491	3.21
Berks,	149,434	2.78
Montgomery,	134,199	2.50
Lackawanna,	96,664	1.80
Northampton,	95,780	1.78
Jefferson,	65,551	1.22
Bedford,	57,100	1.07
Fayette,	41,470	.78
Armstrong,	27,967	.52
Lancaster,	1,680	.03
Huntingdon,	1,642	.03
Centre,	980	.02
	5,367,979	100.00

PRODUCTION OF STEEL, 1898.

Bessemer, gross tons,	3,357,684
Open hearth, gross tons,	1,848,732
Crucible, gross tons,	69,568
Total,	5,275,984

PRODUCTION OF STEEL IN 1898, AS COMPARED WITH 1897 AND 1896.

Years.	Gross Tons.	Increase (+) or decrease (—) as compared with preceding years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount.	Percentage.	Amount.	Percentage.
BESSEMER.					
1896,	2,292,814	....	......	....	......
1897,	2,848,204	+555,390	+24.2	....	......
1898,	3,357,684	+509,480	+17.9	+1,064,870	+46.44
OPEN HEARTH.					
1896,	1,009,608	....	......	....	......
1897,	1,421,373	+411,765	+40.8	....	......
1898,	1,848,732	+427,359	+30.1	+839,124	+83.11
CRUCIBLE.					
1896,	43,107	....	......	....	......
1897,	49,245	+6,138	+14.2	....	......
1898,	69,568	+20,323	+41.2	+26,461	+61.38
TOTAL PRODUCTION.					
1896,	3,345,529	....	......	....	......
1897,	4,318,622	+973,093	+29.0	....	......
1898,	5,275,984	+957,362	+22.2	+1,930,455	+57.70

PRODUCTION OF STEEL BY COUNTIES.

RELATIVE PER CENT. BY COUNTIES OF STEEL PRODUCED, 1898.

Allegheny,	64.59
Cambria,	8.57
Dauphin,	6.45
Lackawanna,	5.53
Philadelphia,	3.95
Lawrence,	3.25
Chester,	2.79
Westmoreland,	1.61
Mercer,	1.55
Northampton,	.85
Mifflin,	.28
Armstrong,	.23
Delaware,	.15
Venango,	.082
Berks,	.077
Beaver,	.018
Washington,	.012
Crawford,	.0015
	99.9905

PRODUCTION OF IRON AND STEEL ROLLED INTO FINISHED FORM, 1898 (NET TONS).

Bar, rods, strip, steel, skelp, shapes, rolled axles, structural iron, etc. (not including billets or muck bar), ...	3,298,571
Plates and sheets, ...	1,007,288
Cut nails and cut spikes, ...	33,701
Rails, ...	1,197,689
Total production of iron and steel rolled into finished form, net tons, ...	5,537,249
Value, ...	$136,820,442
Average value per ton, ...	$24 71
Value of basic material. The iron or steel only out of which the rolled production is made (fuel, management, office help, and all other items of expense, are not considered), ...	$79,924,581
Average cost of basic material per ton, ...	$14 43
Average days in operation, ...	278
Total number of working people employed, ...	56,230
Aggregate wages paid to these working people, ...	$27,879,202
Average earnings for the year, ...	$495 81
Average daily wage, ...	1 78
Cost of labor per ton, ...	$5 03

COMPARISON OF IRON AND STEEL ROLLED INTO FINISHED FORM FOR THE YEARS 1896, 1897 AND 1898.

Years.	Totals.	Increase (+) or decrease (—) as compared with the previous year.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount.	Percentage.	Amount.	Percentage.
CAPITAL INVESTED.					
1896,	$120,620,912	....	......	....	......
1897,	126,170,391	+$5,549,479	+4.6	....	......
1898,	130,795,783	+4,625,392	+3.7	+$10,174,871	+8.4
VALUE OF PRODUCTION.					
1896,	$119,029,762	....	......	....	......
1897,	123,900,771	+$4,871,009	+4.09	....	......
1898,	136,820,442	+12,919,671	+10.4	+$17,790,680	+14.9
VALUE OF BASIC MATERIAL USED.					
1896,	$70,811,190	....	......	....	......
1897,	77,941,524	+$7,130,334	+10.7	....	......
1898,	79,924,581	+1,983,057	+2.05	+9,113,391	+12.8
PRODUCTION, NET TONS.					
1896,	3,757,070	....	......	....	......
1897,	4,714,333	+957,263	+25.5	....	......
1898,	5,537,249	+822,916	+17.4	+1,780,179	+47.3
AVERAGE VALUE PER NET TON.					
1896,	$31 68	....	......	....	......
1897,	26 28	—$5 40	—17.0	....	......
1898,	24 71	—1 57	—5.09	—$6 97	—22.0
AGGREGATE AMOUNT PAID TO WORKING PEOPLE.					
1896,	$23,832,628	....	......	....	......
1897,	24,349,966	+$517,338	+2.2	....	......
1898,	27,879,202	+3,529,236	+14.4	+$4,046,574	+16.9
TOTAL NUMBER OF WORKING PEOPLE EMPLOYED.					
1896,	53,573	....	......	....	......
1897,	52,798	—775	—1.4	....	......
1898,	56,230	+3,432	+6.5	+2,657	+4.9

COMPARISON OF IRON AND STEEL ROLLED INTO FINISHED FORM FOR THE YEARS 1896, 1897 AND 1898.

Years.	Totals.	Increase (+) or decrease (—) as compared with the previous year.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount.	Percentage.	Amount.	Percentage.
AVERAGE EARNINGS FOR THE YEAR.					
1896,	$444 89	....	......	....	......
1897,	461 19	+$16 30	+3.6	....	......
1898,	495 81	+34 62	+7.5	+$50 92	+11.4
AVERAGE DAILY WAGE.					
1896,	$1 77	....	......	....	......
1897,	1 71	—06	+3.4	....	......
1898,	1 78	+07	+4.1	+01	+0.06
AVERAGE NUMBER OF DAYS IN OPERATION.					
1896,	251	....	......	....	......
1897,	269	+18	+7.2	....	......
1898,	278	+9	+3.3	+27	+10.7
AVERAGE COST OF LABOR PER TON.					
1896,	$6 34	....	......	....	......
1897,	5 16	—$1 18	—18.6	....	......
1898,	5 03	—13	—2.5	—$1 31	—20.7
AVERAGE COST OF BASIC MATERIAL PER TON.					
1896,	$18 32	....	......	....	......
1897,	16 53	—$1 79	—9.8	....	......
1898,	14 43	—2 10	—12.7	—$3 89	—21.2

PRODUCTION OF IRON AND STEEL ROLLED INTO FINISHED FORM BY COUNTIES, WITH RELATIVE PER CENT.

	Net tons.	Per cent.
Allegheny,	3,185,263	57.52
Cambria,	389,025	7.03
Dauphin,	313,625	5.66
Lackawanna,	298,000	5.38
Philadelphia,	185,913	3.36
Chester,	155,964	2.81
Lawrence,	125,914	2.27
Berks,	116,978	2.11
Montgomery,	96,407	1.74
Lehigh,	75,593	1.36
Lebanon,	74,316	1.34
Westmoreland,	67,593	1.22
Beaver,	67,408	1.22
Mercer,	53,416	.97
Delaware,	51,451	.93
Lancaster,	46,907	.85
Blair,	40,328	.73
Montour,	36,417	.66
Columbia,	23,962	.43
Washington,	22,479	.41

PRODUCTION OF IRON AND STEEL ROLLED INTO FINISHED FORM BY COUNTIES WITH RELATIVE PER CENT—Continued

	Net tons.	Per cent.
Mifflin,	20,562	.37
Northumberland,	17,270	.31
Northampton,	16,935	.31
Armstrong,	14,325	.26
Indiana,	10,545	.19
Perry,	10,032	.18
Fayette,	7,638	.14
York,	6,177	.11
Lycoming,	3,789	.07
Centre,	1,900	.03
Schuylkill,	1,037	.02
Crawford,	80	.001
	5,537,249	99.991

TIN PLATE.

PRODUCTION OF TIN PLATE (BLACK PLATE WORKS), 1898.

Number of plants in operation (only 15 turned out a tinned production),	18
Capital invested,	$7,903,000
Production of black plate in pounds,	344,064,000
Quantity of black plate tinned, pounds,	222,528,000
Quantity in pounds not tinned,	34,284,000
Value of tinned production,	$6,697,921
Value of the black plate not tinned,	$2,646,314
Total value of entire production, tinned and untinned,	$9,344,235
Average value per hundred pounds of tinned production,	$3,01
Average value per ton of 2,000 pounds of black plate not tinned,	$43 83
Average number of days in operation,	278
Total number of working people employed,	5,036
Aggregate amount of wages paid to these working people,	$2,943,954
Average earnings for the year,	$584 58
Average daily wage,	$2 10
Total number of hot mills,	138
Total number of tinning sets,	197
Daily capacity in net tons,	1,069

TIN PLATE.

BLACK PLATE WORKS, 1898, AS COMPARED WITH 1897 AND 1896.

Years.	Number of establishments in operation.		Increase (+) or decrease (—) 1898 as compared with previous years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
			Amounts.	Percentage.	Amounts.	Percentage.
CAPITAL INVESTED.						
1896,	13	$3,627,275	....	......	....	......
1897,	15	5,017,127	+$1,389,852	+38.3	....	......
1898,	18	7,903,000	+2,885,873	+57.5	+$4,275,725	+117.8
COST OF BASIC MATERIAL.						
1896,	13	$2,238,422	....	......	....	......
1897,	15	3,462,320	+$1,223,898	+54.7	....	......
1898,	18	4,103,428	+641,108	+18.5	+$1,865,006	+83.3
QUANTITY, IN POUNDS, OF BLACK PLATE PRODUCED AND TINNED.						
1986,	13	97,814,762	....	......	....	......
1897,	15	179,705,766	+$81,891,004	+83.7	....	......
1898,	18	222,528,000	+42,822,234	+23.8	+$124,713,238	+127.5
QUANTITY OF POUNDS PRODUCED AND NOT TINNED.						
1896,	13	60,491,728	....	......	....	......
1897,	15	74,451,835	+$13,960,107	+23.1	....	......
1898,	18	34,284,000	—40,167,835	—53.9	—$26,207,728	—43.3
ENTIRE PRODUCTION OF BLACK PLATE, IN POUNDS.						
1896,	13	158,306,490	....	......	....	......
1897,	15	254,157,601	+95,851,111	+60.5	....	......
1898,	18	344,064,000	+89,906,399	+35.4	+185,757,510	+117.3
VALUE OF BLACK PLATE NOT TINNED.						
1896,	13	$1,480,112	....	......	....	......
1897,	15	1,657,297	+$177,185	+11.9	....	......
1898,	18	2,646,314	+989,017	+59.7	+$1,166,202	+78.8
VALUE OF TIN AND TERNE PLATE PRODUCED.						
1896,	13	$3,157,699	....	......	....	......
1897,	15	5,180,624	+$2,022,925	+64.0	....	......
1898,	18	6,697,921	+1,517,297	+29.3	+$3,540,222	+112.1

TIN PLATE.

BLACK PLATE WORKS 1898 AS COMPARED WITH 1897 AND 1896.—Continued

Years.	Number of establishments in operation.		Increase (+) or decrease (—) 1898 as compared with previous years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
			Amounts.	Percentage.	Amounts.	Percentage.
VALUE OF ENTIRE PRODUCTION OF BLACK PLATE, TINNED AND UNTINNED.						
1896, ...	18	$4,637,811	....	......	....	......
1987, ...	15	6,837,921	+$2,200,110	+47.4	....	......
1898, ...	18	9,344,235	+2,506,314	+36.6	+$4,706,424	+101.5
VALUE PER HUNDRED POUNDS OF TIN AND TERNE PLATE.						
1896, ...	13	$3 23	....	......	....	......
1897, ...	15	2 88	—$0 35	—10.9	....	......
1898, ...	18	3 01	+13	+4.5	—$0 22	—6.8
VALUE PER TON OF 2,000 POUNDS OF BLACK PLATE NOT TINNED.						
1896, ...	13	$48 93	....	......	....	......
1897, ...	15	44 51	—$4 42	—9.0	....	......
1898, ...	18	43 83	—68	—1.5	—$5 10	—10.4
AVERAGE NUMBER OF DAYS IN OPERATION.						
1896, ...	13	250	....	......	....	......
1897, ...	15	281	+31	+12.4	....	......
1898, ...	18	278	—3	—1.0	+28	+11.2
NUMBER OF WORKING PEOPLE EMPLOYED.						
1896, ...	13	3,194	....	......	....	......
1897, ...	15	3,920	+726	+22.7	....	......
1898, ...	18	5,036	+1,116	+28.5	+1,842	+57.7
AGGREGATE AMOUNT OF WAGES PAID.						
1896, ...	13	$1,437,226	....	......	....	......
1897, ...	15	2,227,217	+$789,991	+54.9	....	......
1898, ...	18	2,943,954	+716,737	+32.2	+$1,506,728	+104.9
AVERAGE YEARLY EARNINGS.						
1896, ...	13	$456 55	....	......	....	......
1897, ...	15	568 17	+$111 62	+24.4	....	......
1898, ...	18	584 58	+16 41	+2.9	+$128 03	+25.8
AVERAGE DAILY WAGE.						
1896, ...	13	$1 80	....	......	....	......
1897, ...	15	2 02	+$0 22	+12.2	....	......
1898, ...	18	2 10	+08	+4.0	+$0 30	+16.7

PRODUCTION OF TIN PLATE DIPPING WORKS, 1898.

(The dipping works buy all their black plate.)

Number of plants in operation,	7
Number of tinning sets,	55
Daily capacity in net tons,	109
Capital invested,	$882,000
Value of basic material, black plate and tin and lead,	$1,230,832
Average number of days in operation,	259
Total number of working people employed,	421
Aggregate of wages paid to these working people,	$127,236
Total value of production,	$1,747,176
Total production in pounds, tin and terne,	40,406,000
Average value per net ton,	$86.48
Average value per 100 pounds,	4.32
Average earnings for the year,	$302 22
Average daily wage,	1.17

COMBINED PRODUCTION OF TIN AND TERNE PLATE BY THE BLACK PLATE WORKS AND THE DIPPING WORKS, 1898.

Number of plants producing a tinned output,	25
Total production in pounds of tin and terne plate,	262,934,000
Total value,	$8,445,097
Average value per hundred pounds,	3.21

COMBINED PRODUCTION OF TIN AND TERNE PLATE BY THE BLACK PLATE AND DIPPING WORKS IN 1898, AS COMPARED WITH 1897 AND 1896.

NUMBER OF PLANTS PRODUCING A TINNED OUTPUT.

1896,	25
1897,	25
1898,	25

		Increase (+) or decrease (—) as compared with previous years.		Increase (+) or decrease (—) 1898 as compared with 1896.	
		Amount.	Percentage.	Amount.	Percentage.
TOTAL PRODUCTION IN POUNDS OF TIN AND TERNE PLATE.					
1896,	139,588,703	....	......	....	......
1897,	225,641,766	+86,053,063	+61.6	....	......
1898,	262,934,000	+37,292,234	+16.5	+123,345,297	+88.4
TOTAL VALUE.					
1896,	$5,045,097	....	......	....	......
1897,	6,997,041	+$1,951,944	+38.7	....	......
1898,	8,445,097	+1,448,056	+20.7	+$3,400,000	+67.4
AVERAGE VALUE PER HUNDRED POUNDS.					
1896,	$3.61	....	......	....	......
1897,	3.10	—$0 51	—14.1	....	......
1898,	3.21	+11	+3.5	—$0 40	—11.1

BLACK PLATE PRODUCTION BY COUNTIES, 1898.

PRODUCTION AND RELATIVE PER CENT. BY COUNTIES OF BLACK PLATE PRODUCED AT THE BLACK PLATE TIN WORKS, PICKLED AND READY FOR TINNING.

Counties.	Net Tons.	Per cent.
Lawrence,	66,301	38.54
Allegheny,	34,440	20.02
Westmoreland,	30,924	17.97
Washington,	14,479	8.42
Fayette,	7,638	4.44
Philadelphia,	6,115	3.55
Dauphin,	4,782	2.78
Indiana,	3,281	1.91
Beaver,	2,204	1.28
Cambria,	1,868	1.09
	172,032	100.00

At the close of 1898 Pennsylvania had twenty black plate plants, but only 18 were in operation.

P. H. Laufman & Co., Limited, not turning out any tin plate product, and the large plant of the Shenango Valley Steel and Tin Plate Company being only completed ready for operation.

PRODUCTION OF TIN AND TERNE PLATE IN 1898 AT THE BLACK PLATE WORKS BY COUNTIES AND RELATIVE PER CENT.

Counties.	Net Tons.	Per cent.
Lawrence,	34,607	31.10
Allegheny,	29,206	26.25
Westmoreland,	24,086	21.65
Washington,	7,681	6.91
Fayette,	7,401	6.65
Philadelphia,	4,321	3.88
Indiana,	3,124	2.81
Dauphin,	747	.67
Cambria,	91	.08
	111,264	100.00

TIN AND TERNE PLATE BY COUNTIES (DIPPING WORKS.)

RELATIVE PER CENT. BY COUNTIES OF TIN AND TERNE PLATE PRODUCED BY THE DIPPING WORKS (BUY THEIR BLACK PLATE), 1898.

Counties.	Net Tons.	Per cent.
Philadelphia,	14,438	71.47
Allegheny,	4,847	23.99
Montgomery,	542	2.68
Berks,	376	1.86
Total,	20,203	100.00

TOTAL TIN PLATE PRODUCTION BY COUNTIES.

PRODUCTION AND RELATIVE PER CENT. BY COUNTIES OF TIN AND TERNE PLATE PRODUCED BY THE BLACK PLATE WORKS AND DIPPING WORKS COMBINED, 1898.

Counties.	Net Tons.	Per cent.
Lawrence,	34,607	26.32
Allegheny,	34,053	25.90
Westmoreland,	24,086	18.32
Philadelphia,	18,759	14.27
Washington,	7,681	5.84
Fayette,	7,401	5.63
Indiana,	3,124	2.38
Dauphin,	747	.57
Montgomery,	542	.41
Berks,	376	.29
Cambria,	91	.07
	131,467	100.00

LIMESTONE QUARRIED FOR IRON MANUFACTURING PURPOSES IN PENNSYLVANIA DURING 1898.

Average number of days in operation,	269
Total number of persons employed (working people only, including boys),	2,481
Aggregate amount of wages paid,	$764,977
Total production in gross tons,	4,200,523
Total value of production,	$1,305,566
Average yearly earnings,	308.33
Average daily wage,	1.15

LIMESTONE, 1898.

RELATIVE PER CENT. OF PRODUCTION BY COUNTIES.

Blair,	37.75
Lawrence,	23.32
York,	9.52
Montgomery,	6.79
Lebanon,	6.66
Dauphin,	3.95
Lehigh,	2.95
Cumberland,	1.79
Butler,	1.65
Northampton,	1.30
Centre,	1.21
Berks,	1.11
Lancaster,	1.07
Bedford,	.41
Mifflin,	.20
Chester,	.20
Clinton,	.12
	100.00

ANALYSIS.

The first tables presented are those of the 1892 comparative series, pages 71 to 201. Forty-seven industries are set forth, representing 358 establishments, which are carried throughout the entire series and comparison made from year to year of the days in operation, persons employed, aggregate of wages paid, average yearly earnings, value of the production and the average value of the production per employe. As these tables are of value, more especially as indicating business conditions, it would be well to follow them closely, and not only this series, but the 1896 comparative series which immediately follows.

It will be seen, in the 1892 series, that 138,762 wage earners, skilled and unskilled, were employed in the 358 establishments during 1898. In 1892, the year of our greatest prosperity, the number employed was 137,612, or 1,150 less than during 1898. In 1894, the year of our greatest depression, there were employed only 110,071, an increase in 1898 over 1894 of 28,691, or 26 per cent.

The aggregate of wages paid out during 1898 was $62,960,638, being $4,545,176 less than was paid out in 1892, or 6.73 per cent. of a decrease, but an increase over that paid out in 1897 of $10,554,322, or 20.14 per cent., and an increase over 1894 of $17,501,625, or over 38 per cent.

The increase in yearly earnings in 1898 over 1897 was $24.15, or 5.62 per cent., and over 1894, $40.73, or nearly 10 per cent.

The value of the product of these 358 establishments for 1898 was $267,048,287, as against $270,359,609 in 1892, a decrease of $3,311,332, or over 1 per cent. The increase in 1898 over 1897 was $43,158,838, or over 19 per cent., and the increase over 1894, the year of the greatest depression, was $80,662,040, or over 43 per cent.

The following table shows the only industries in this series having a decrease in the number of persons employed:

DECREASE IN THE NUMBER OF PERSONS EMPLOYED.

Industries.	Number.
Car couplers,	30
Carpets,	373
Worsted yarns,	15
Miscellaneous yarns,	29
Worsted goods,	27

Knit goods,	30
Hosiery and knit goods,	67
	571

The remaining 40 industries show an increase of 17,338 persons employed, or over 14 per cent.

The following table shows the only industries with a decrease in the aggregate of wages paid:

DECREASE IN THE AMOUNT OF WAGES PAID.

Industries.	Wages.
Nails and spikes,	$37,782
Car couplers,	19,898
Carpets,	158,403
Worsted yarns,	26,011
Miscellaneous yarns,	23,616
Worsted goods,	12,367
Knit goods,	431
Chenille goods,	14,849
Hosiery and knit goods,	14,788
Ribbons,	3,965
	$312,110

The remaining 37 industries show an increase of $10,866,432 in wages paid, or 20.7 per cent.

The following table shows the decreases in the value of the production:

DECREASE IN THE VALUE OF PRODUCTION.

Industries.	Value.
Plate and bar,	$143,768
Nails and spikes,	403,008
Carbons,	5,000
Carpets,	523,715
Cotton yarns,	36,444
Worsted yarns,	208,114
Miscellaneous yarns,	223,436
Knit goods,	32,000
Hosiery and knit goods,	19,483
Ribbons,	5,394
	$1,600,362

The remaining industries in this series show increases in the value of production amounting to $44,759,200, or 19.9 per cent.

1896 COMPARATIVE SERIES.

In this series comparison cannot be made with 1892 and 1894 for the reason that the series was not commenced until 1896. Statistics relating to this series will be found on pages 202 to 419.

This series comprises 101 industries, representing 901 establishments. It will be seen that in capital invested there has been a gradual increase since 1896, and that in 1898 the capital invested was $219,027,763, or an increase over 1897 of 2.06 per cent. and over 1896 of 3.77 per cent.

There has been a still larger increase in the value of the basic material out of which the product was made. By basic material is meant that material out of which the product is produced, and at no time includes fuel or other costs of manufacture. For instance, in the case of pig iron, it means the ore, crap or cinder out of which the pig iron is made. In case of a finished product of iron, it means the cost of the iron at whatever stage it entered the mill for manufacture. If a woolen production, say, yarns, it means the cost of the wool. If a cotton production, the cost of the cotton. If a silk production, the cost of the silk, and so on. If the product be a woven fabric, and the mill should not make its yarns, but buy them, then the cost of the yarns is the cost of the basic material; that is to say, basic material means the material out of which the product is made at whatever stage it enters the mill. It will consequently be seen that the figures herein presented cannot lead up to the cost of manufacture, as there are many important items of expense yet to be considered.

The value of the basic material used by these 901 establishments in 1898 was $122,120,995, or an increase over 1897 of 12.16 per cent., and over 1896 of 22.79 per cent.

The average days of operation in 1898 was 286 as against 276 in 1897 and 268 in 1896.

The total number of working people, skilled and unskilled, employed in 1898 was 165,333, or an increase over 1897 of 15,254, or 10.16 per cent., and over 1896 of 31,673, or 23.69 per cent. The aggregate of wages paid to these working people in 1898 was $65,078,302, an increase over 1897 of 15.19 per cent., and over 1896 of 20.45 per cent. The average yearly earnings were $393.62, or an increase over 1897 of 4.56 per cent., but a decrease from 1896 of 2.62 per cent. The average daily wage in 1898 was $1.38, in 1897, $1.36, and in 1896, $1.51.

The value of the production in 1898 was $254,683,443, or an increase over 1897 of 15.72 per cent., and over 1896 of 25.83 per cent. The value of the production to each employe for 1898 was $1,540.42, an increase over 1897 of 5.04 per cent., and over 1896 of 1.72 per cent.

The following table shows the only industries in this series having a decrease in the number of persons employed:

DECREASE IN THE NUMBER OF PERSONS EMPLOYED.

Industries.	Number.
Iron and steel specialties,	21
Iron specialties,	10
Tacks and small nails,	46
Wrenches, picks, etc.,	21
Saws,	3
Safes and vault doors,	4
Iron beds,	3
Paper manufacture,	38
Cordage, rope, etc.,	23
Building brick,	29
Slate roofing, etc.,	52
School slates,	18
Umbrellas and parasols,	88
Neckwear,	17
Cotton and woolen cloth,	29
Clothing,	272
Woolen and worsted fabrics,	148
Woolen and worsted yarns,	67
Rugs, yarns, etc.,	143
Carpet yarns,	48
Chenille goods,	59
	1,140

The remaining 80 industries show increases of 13,392 in the number employed, or 10.9 per cent.

The following table shows the decreases in the aggregate of wages paid:

DECREASE IN THE AGGREGATE OF WAGES PAID.

Industries.	Wages.
Iron and steel specialties,	$14,245
Iron specialties,	4,000
Wire nails,	62,912
Tacks and small nails,	7,269
Bicycles,	2,744
Pianos and organs,	716
Tinware,	3,788
Paper manufacture,	14,619
Cordage, rope, etc.,	7,030
Building brick,	28,510
Slate roofing,	19,986

School slates,	$2,357
Hats and caps,	2,953
Umbrellas and parasols,	42,684
Neckwear,	2,566
Carpets,	17,932
Clothing,	9,785
Woolen and worsted yarns,	36,597
Carpet yarns,	43,173
Worsted yarns,	22,324
	$346,190

The remaining 81 industries show increases amounting to $8,926,493, or 15.8 per cent.

The following table shows the decreases in the value of the production:

DECREASE IN THE VALUE OF PRODUCTION.

Industries.	Value.
Steel billets, etc.,	$252,328
Iron and steel specialties,	24,404
Iron specialties,	41,060
Wire nails,	437,825
Tacks and small nails,	12,950
Bath boilers, tanks, etc.,	1,597
Car wheels and car axles,	5,190
Safes and vault doors,	4,391
Building iron work,	305
Pianos and organs,	36,003
Paper manufacture,	114,716
Building brick,	88,400
School slates,	20,675
Hats and caps,	44,911
Wool hats,	16,802
Umbrellas and parasols,	99,487
Neckwear,	20,842
Clothing,	72,438
Rugs, yarns, etc.,	96,988
Carpet yarns,	386,195
Worsted yarns,	455,652
Cotton and woolen yarns,	54
	$2,233,213

The remaining 79 industries show increases amounting to $36,824,053, or 16.7 per cent.

The production is given in these tables of only 46 out of the 101 industries, for the reason of incompleteness in returns of production for the remaining 55 industries.

Of 20 miscellaneous iron industries giving production, only 4 show decreases in tonnage. They are iron and steel specialties, iron specialties, wire nails and tacks and small nails, and their decreases are 14,638 tons. The remaining 16 industries show an increase of 213,843 tons, or nearly 18 per cent. over the production of 1897.

Paper manufacture, 10 establishments represented, shows a decrease in product of 9 per cent.; wall paper, 5 establishments represented, shows an increase of 19.2 per cent.; cigars, 50 establishments represented, show an increase of 4.8 per cent.; paving and building brick, 50 establishments represented, show an increase of 23.5 per cent.; roofing slate, 17 establishments represented, shows an increase of 19 per cent.; glazed and chrome kid, 7 establishments represented, show an increase of 16.9 per cent.; men's, women's, misses' and children's shoes, 18 establishments represented, show an increase of 2.1 per cent.; suspenders, 2 establishments represented, show an increase of 8.5 per cent.; hats and caps, 3 establishments represented, show a decrease of 3.2 per cent.; fur and felt hats, 5 establishments represented, show an increase of 9.6 per cent.; wool hats, 8 establishments represented, show an increase of 1.4 per cent.; umbrellas and parasols, 6 establishments represented, show a decrease of 5.1 per cent.; shirts and shirt waists, 11 establishments represented, show an increase of 71.1 per cent.; carpets, 20 establishments represented, show a decrease of 5.2 per cent.; woolen and worsted yarns, and worsted yarns, 22 establishments represented, show a decrease of 26.3 per cent.; carpet yarns, 12 establishments represented, show a decrease of 18.1 per cent.; cotton yarns, and cotton and woolen yarns, 13 establishments represented, show an increase of 6.8 per cent.; hosiery, 34 establishments represented, show a decrease of 3.5 per cent.; silk, broad goods, etc., 3 establishments represented, show an increase of 8.3 per cent.; ribbons, 4 establishments represented, show an increase of 35.4 per cent.

SILK MANUFACTURE.

Statistics relating to the manufacture of silk in Pennsylvania for 1898 will be found on pages 420 to 427. Comparison is made between the Federal Census of 1890 and the Bureau Census of 1895.

The number of spindles in 1898 was 699,308, an increase over 1895 of 141,816, or 25.4 per cent.; the number of hand looms, 177, a decrease from 1895 of 128, or 42 per cent.; the number of power looms, 9,238, an increase over 1895 of 3,546, or 62.2 per cent.; the number of machines, 3,401, an increase over 1895 of 1,121, or 49.2 per cent. The falling off in the number of hand looms is easily accounted for, as the hand loom is fast giving place to the improved power loom.

The number of males employed in 1898 was 5,441, as against 3,853 in 1895, an increase of 1,588, or 41.3 per cent.; the number of females employed was 10,998, as against 6,394, an increase of 4,064, or 58.6 per cent.; the number of children employed was 3,926, as against 3,028, an increase of 898, or 29.6 per cent., making a total of 20,365 employes in 1898, as against 13,815 in 1895, an increase of 6,550, or 47.4 per cent., and an increase over the number in 1890 of 11,035, or 118.3 per cent.

The average yearly earnings of the males in 1898 was $371.73; of the females, $215.61; of the children between thirteen and sixteen years of age, $120.48. The weekly earnings of the males in 1898 was $7.29; of the females, $4.23; of the children, $2.36. Comparison is not made as to classified earnings for the reason that separation of wages was not given in 1895.

The value of the production in 1898 was $32,250,599, as against $24,184,583 in 1895, an increase of $8,066,016, or 33.1 per cent., and an increase over 1890 of $12,893,053, or 66.6 per cent.

PIG IRON.

Pig iron production for 1898, in comparison with the years 1897 and 1896, will be found on pages 428 to 431.

It will be seen that in 1898 Pennsylvania produced 5,367,979 gross tons of pig iron, not including some 40,000 tons of spiegeleisen and ferro-manganese, sometimes included in pig iron production, as against 4,617,634 tons produced in 1897, an increase of 750,345 tons, or 16.2 per cent., and an increase over 1896 of 1,341,629 tons, or 33.3 per cent.

The value of the pig iron production for 1898 was $53,331,228, as against $48,884,854 in 1897, an increase of $4,446,374, or 9.1 per cent., and 18 per cent. of an increase over 1896. The average value per ton in 1898 was $9.94, as against $10.58 in 1897, a decrease of 64 cents per ton, or 6 per cent., and a decrease from 1896 of $1.27 per ton, or 11.3 per cent. The aggregate cost per ton of the basic material in 1898, that is, the ore, scrap or cinder out of which the pig iron was made, was $5.48, as against $6.48 in 1897, a decrease of $1.00 per ton, or 15.4 per cent., and a decrease from the cost in 1896 of $1.04 per ton, or 16 per cent.

The number of working people employed in 1898 was 11,911, as against 11,272 in 1897, an increase of 639 persons, or 5.6 per cent., and an increase over 1896 of 2.8 per cent.

The aggregate amount of wages paid out in 1898 was $5,268,503, as against $4,676,970, in 1897, an increase of $591,533, or 12.6 per cent., and an increase over 1896 of 14.8 per cent. The average yearly earnings in 1898 were $442.32, an increase over 1897 of $27.40, or 6.6 per cent., and an increase over 1896 of $46.02, or 11.6 per cent. The average daily wage in 1898 was $1.32, in 1897, $1.36 and in 1896, $1.37.

The average cost of labor per ton in 1898 was 98 cents; in 1897, $1.01, and in 1896, $1.14.

STEEL PRODUCTION.

Statistics relating to the steel production in Pennsylvania for 1898 will be found on pages 432 to 434.

The production of bessemer steel in 1898 was 3,357,684 gross tons, as against 2,848,204 tons in 1897, an increase of 509,480 tons, or 17.9 per cent., and an increase over the production of 1896 of 1,064,870 tons, or 46.44 per cent. The production of open hearth in 1898 was 1,848,732 tons, as against 1,421,373 tons in 1897, an increase of 427,359 tons, or 30.1 per cent., and an increase over the production of 1896 of 839,124 tons, or 83.11 per cent. The production of crucible steel in 1898 was 69,568 tons, as against 49,245 tons in 1897, an increase of 20,323 tons, or 41.2 per cent., and an increase over the production of 1896 of 26,461 tons, or 61.38 per cent., making the total production of steel for 1898 5,275,984 gross tons, as against 4,318,622 tons in 1897, an increase of 957,362 tons, or 22.2 per cent., and an increase over the production of 1896 of 1,930,455 tons, or 57.7 per cent.

IRON AND STEEL ROLLED INTO FINISHED FORM.

Statistics relating to the production of iron and steel rolled into finished form will be found on pages 435 to 439.

Neither billets nor puddle bar are included in the production of iron and steel rolled into finished form, as the Bureau does not treat them as a finished form of rolled iron and steel.

The capital invested in 1898 was $130,795,783, as against $126,170,391 in 1897, an increase of $4,625,392, or 3.7 per cent., and an increase over 1896 of $10,174,871, or 8.4 per cent.

The production in 1898 was 5,537,249 net tons, as against 4,714,333 tons in 1897, an increase of 822,916 tons, or 17.4 per cent., and an increase over the production of 1896 of 1,780,179 tons, or 47.3 per cent.

The value of the production in 1898 was $136,820,442, as against $123,900,771 in 1897, an increase of $12,919,671, or 10.4 per cent., and an increase over the value of 1896 of $17,790,680, or 14.9 per cent. The average value per net ton in 1898 was $24.71, as against $26.28 in 1897, a decrease of $1.57 per ton, or 5.09 per cent., and a decrease from the value in 1896 of $6.97 per ton, or 22 per cent.

The average cost of the basic material per ton of finished product, that is, the iron and steel only out of which the rolled product was made, in 1898 was $14.43, as against $16.53 in 1897, a decrease of $2.10, or 12.7 per cent., and a decrease from 1896 of $3.89 per ton, or 21.2 per cent.

The number of working people employed, skilled and unskilled, in 1898, was 56,230, an increase over 1897 of 3.432, and an increase over 1896 of 2,657.

The average yearly earnings of the working people in 1898 were $495.81, as against $461.19 in 1897, an increase of $34.62, or 7.5 per cent., and an increase over 1896 of $50.92, or 11.4 per cent. The average daily wage in 1898 was $1.78, as against $1.71 in 1897 and $1.77 in 1896.

TIN PLATE.

The statistics relating to tin plate production in Pennsylvania will be found on pages 440 to 445. The census of 1898 is compared with that of 1897 and 1896.

The number of plants in operation making black plate in 1898 was 18, as against 15 in operation in 1897.

The quantity of black plate produced in 1898 was 344,064,000 pounds, as against 254,157,601 pounds produced by the 15 plants in operation in 1897, an increase of 89,906,399 pounds, or 35.4 per cent., and an increase over the production of the 13 plants in operation in 1896 of 185,757,510 pounds, or 117.3 per cent.

Of the 18 black plate works in operation in 1898, only 15 turned out a tinned production. Their output was 222,528,000 pounds, as against 179,705,766 pounds produced in 1897, an increase of 42,822,234 pounds, or 23.8 per cent., and an increase of tinned production over 1896 of 124,713,238 pounds, or 127.5 per cent.

The value per ton of 2,000 pounds of the black plate produced in 1898 but not tinned was $43.83, as against $44.51 in 1897, a decrease of 68 cents, or 1.5 per cent., and a decrease from the value in 1896 of $5.10 per ton, or 10.4 per cent.

The average value per 100 pounds of tinned and terned plate produced by the black plate works in 1898 was $3.01, as against $2.88 in 1897, an increase of 13 cents, or 4.5 per cent., but a decrease from the value in 1896 of 22 cents per ton, or 6.8 per cent.

The number of working people employed, skilled and unskilled, in 1898 was 5,036, as against 3,920 in 1897, an increase of 1,116, or 28.5 per cent., and an increase over 1896 of 1,842, or 57.7 per cent.

The average yearly earnings in 1898 were $584.58, as against $568.17 in 1897, an increase of $16.41, or 2.9 per cent., and an increase over 1896 of $128.03, or 25.8 per cent. The average daily wage for skilled and unskilled labor in 1898 was $2.10, as against $2.02 in 1897, an increase of 8 cents, or 4 per cent., and as against $1.80 in 1896, an increase of 30 cents per day, or 16.7 per cent.

Pennsylvania has two tin plate works that produced no black plate in 1898, P. H. Laufman, Limited, and the large new tin plate works of the Shenango Valley Steel Company, which was only ready for operation at the beginning of the year.

The total number of hot mills in the State was 138; total number of tinning sets, 197; daily capacity, 1.069 net tons.

DIPPING WORKS.

Pennsylvania had seven tin plate dipping works in operation in 1898. Number of tinning sets, 55; daily capacity, 109 net tons. By dipping works is meant a tin plate concern that turns out a tin plate production from purchased black plate. They are tin plate makers, not black plate makers. These seven plants produced 40,406,000 pounds of tin and terne plate, the average value of which was $4.32 per hundred. This increased value over that of the black plate works is due largely to the fact that much roofing tin is included, which is more expensive than the ordinary plate.

The average yearly earnings of the employes, many of whom were girls, were $302.22, and the average daily wage was $1.17.

The combined output of tin and terne plate of the black plate works and the dipping works for 1898 was 262,934,000 pounds, with a total value of $8,445,097, and an average value per 100 pounds of $3.21.

A better idea of the growth of the tin plate industry in Pennsylvania can be had by making comparisons with 1894. In that year, the total output of black plate was 104,757,360 pounds, which, as against 344,064,000 pounds, made in 1898, shows an increase in the four years of 239,306,640 pounds, or 228 per cent.

LIMESTONE PRODUCTION.

Statistics relating to the production of limestone in the State for iron manufacturing purposes will be found on pages 448 and 449.

It will be seen that the production in 1898 was 4,200,523 gross tons, with a value of $1,305,566.

The number to whom employment was given in quarrying this output, including boys, was 2,481, with average yearly earnings of $308.33, or $1.15 per day, with 269 days of employment. Blair county produced 37.75 per cent. of the entire output of the State; Lawrence county followed with 23.32 per cent. No other county reached 10 per cent.

In connection with the relative per cent. by counties, it will be seen that Allegheny county retains her strong lead in the production of pig iron, steel and iron and steel rolled into finished form, her relative per cent. in 1898, of the production of pig iron being 52.29, of steel 64.59, of iron and steel rolled into finished form 57.52. Eighteen county produced pig iron, Centre county being at the foot of the list with .02 per cent. Eighteen counties produced steel, Crawford being at the foot of the list with a relative percentage of .0015. Thirty-two counties produced iron and steel rolled into finished form, Crawford being at the foot of the list with a relative percentage of .001. Ten counties produced black plate, Lawrence leading with a relative percentage of 38.54, and Cambria, being at the foot with a relative percentage of 1.09. Nine of these ten counties turned out a tin plate production, Lawrence leading with a relative percentage of 31.10, and Cambria closing the list with a relative percentage of .08. The dipping works are confined to four counties, Philadelphia, Allegheny, Montgomery and Berks, Philadelphia leading with a relative percentage of 71.47, and Berks being at the foot, with a relative percentage of 1.86. Eleven counties, combining the black plate works and dipping works, were producers of tinned plate, Lawrence county leading with a relative percentage of 26.32, and Cambria closing the list with a relative percentage of .07.

The following averages of daily wage are taken from the 1896 series, from the census of silk, pig iron, iron and steel rolled into finished form, tin plate and limestone. The aggregate of persons employed from which these averages are made is 250,322, which includes skilled and unskilled labor, males, females and children, the corresponding aggregate of wages amounted to $104,609,942, or a per capita for all employed of $417.90. They represent a value for the various products produced by these working people amounting to the enormous sum of $482,089,010. It will be noticed that from hats and caps down the average daily wage drops rapidly from $1.10 to 70 cents. While in many industries preceding hats and caps, there is much female help employed, yet the explanation of the very low average that follows is readily understood when it is seen that the help in these establishments is not only largely female, but that many boys and children are employed:

Steam pumps,	$2 44
Tool steel,	2 31
Tin plate (Black plate works,	2 10
Steel billets, slabs, booms, etc.,	2 06
Stoves, heaters, ranges, etc.,	2 04
Car springs,	2 01
Saws,	2 00
Locomotives and cars, built and repaired,	1 93
Carriage and wagon springs,	1 91
Scales, etc.,	1 90
Iron and steel forgings,	1 89
Wrenches, picks, etc.,	1 88
Locomotives, stationary engines, etc.,	1 88
Electrical supplies,	1 83
Shovels, spades, scoops, etc.,	1 82
Machinery,	1 81
Wagon and carriage axles,	1 79
Iron specialties,	1 79
Iron and steel rolled into finished form,	1 78
Building iron work,	1 77
Iron vessels and engines,	1 76

Engines, boilers, etc.,	$1 72
Pianos and organs,	1 72
Ornamental metal work,	1 71
Book binding,	1 70
Railway switches, etc.,	1 70
Structural iron work,	1 70
Safes and vault doors,	1 69
Railway supplies,	1 67
Window glass, bottles and table goods,	1 64
Foundries and machine shops,	1 63
Bicycles,	1 63
Malleable iron,	1 59
Boilers, tanks, stacks, etc.,	1 59
Edge tools,	1 57
Agricultural implements,	1 57
Building bricks,	1 57
Plumbers' supplies,	1 55
Wire,	1 54
Wire rope,	1 54
Fur and felt hats,	1 54
Hardware specialties,	1 53
Wire nails,	1 51
Iron and steel bridges,	1 51
Brass, copper and bronze goods,	1 50
Iron chains,	1 50
Pottery,	1 50
Iron fences and railings,	1 49
Fire brick,	1 49
Men's, women's, misses' and children's shoes (males),	1 47
Steel castings,	1 46
Tacks and small nails,	1 45
Car wheels and car axles,	1 43
Slate roofing, etc., (squares),	1 43
Wrought iron pipe and tubes,	1 42
Bath boilers, tanks, etc.,	1 41
Paper manufacture,	1 41
Paving brick,	1 33
Pig iron,	1 32
Glazed and chrome kid,	1 32
Cotton and woolen cloth,	1 32
Upholstery goods,	1 32
Slate roofing, etc. (tonnage),	1 31
Wall paper,	1 30
Cast iron pipe,	1 29
Metal and metallic goods,	1 29

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Locomotives and cars, built and repaired,	1 93
Carriage and wagon springs,	1 91
Scales, etc.,	1 90
Iron and steel forgings,	1 89
Wrenches, picks, etc.,	1 88
Locomotives, stationary engines, etc.,	1 88
Electrical supplies,	1 83
Shovels, spades, scoops, etc.,	1 82
Machinery,	1 81
Wagon and carriage axles,	1 79
Iron specialties,	1 79
Iron and steel rolled into finished form,	1 78
Building iron work,	1 77
Iron vessels and engines,	1 76

Engines, boilers, etc.,	$1 72
Pianos and organs,	1 72
Ornamental metal work,	1 71
Book binding,	1 70
Railway switches, etc.,	1 70
Structural iron work,	1 70
Safes and vault doors,	1 69
Railway supplies,	1 67
Window glass, bottles and table goods,	1 64
Foundries and machine shops,	1 63
Bicycles,	1 63
Malleable iron,	1 59
Boilers, tanks, stacks, etc.,	1 59
Edge tools,	1 57
Agricultural implements,	1 57
Building bricks,	1 57
Plumbers' supplies,	1 55
Wire,	1 54
Wire rope,	1 54
Fur and felt hats,	1 54
Hardware specialties,	1 53
Wire nails,	1 51
Iron and steel bridges,	1 51
Brass, copper and bronze goods,	1 50
Iron chains,	1 50
Pottery,	1 50
Iron fences and railings,	1 49
Fire brick,	1 49
Men's, women's, misses' and children's shoes (males),	1 47
Steel castings,	1 46
Tacks and small nails,	1 45
Car wheels and car axles,	1 43
Slate roofing, etc., (squares),	1 43
Wrought iron pipe and tubes,	1 42
Bath boilers, tanks, etc.,	1 41
Paper manufacture,	1 41
Paving brick,	1 33
Pig iron,	1 32
Glazed and chrome kid,	1 32
Cotton and woolen cloth,	1 32
Upholstery goods,	1 32
Slate roofing, etc. (tonnage),	1 31
Wall paper,	1 30
Cast iron pipe,	1 29
Metal and metallic goods,	1 29

Carpet yarns,	$1 27
Bolts and nuts,	1 26
Carpets,	1 24
Tinware,	1 24
Spikes and rivets,	1 23
Freight and street cars,	1 23
Silk (males),	1 21
Neckwear,	1 20
Woolen and worsted cassimere,	1 20
Rugs, yarns, etc.,	1 20
Tin plate (dipping works),	1 17
Woolen and worsted yarns,	1 17
Files, etc.,	1 15
Limestone,	1 15
Hats and caps,	1 10
Cotton goods,	1 10
Suspenders,	1 09
Cotton and woolen yarns,	1 08
Wool hats,	1 07
Woolen and worsted yarns,	1 05
Cordage, rope and twine,	1 03
Cotton yarns,	1 02
Iron and steel specialties,	1 00
Cigars,	99
Knit goods, underwear, etc.,	96
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Woolen blankets, flannel, etc.,	94
Chenille goods,	92
Dress trimmings, braids, etc.,	90
Shirts and shirt waists,	90
Lace goods,	90
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